=> FILE REG
FILE 'REGISTRY' ENTERED AT 15:12:57 ON 28 JAN 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 27 JAN 2002 HIGHEST RN 387334-74-9
DICTIONARY FILE UPDATES: 27 JAN 2002 HIGHEST RN 387334-74-9

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the H/Z/CA/CAplus files between 12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches during this period, either directly appended to a CAS Registry Number or by qualifying an L-number with /P, may have yielded incomplete results. As of 1/23/02, the situation has been resolved. Also, note that searches conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator between 12/27/01 and 1/23/02, are encouraged to re-run these strategies. Contact the CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698, worldwide, or send an e-mail to help@cas.org for further assistance or to receive a credit for any duplicate searches.

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 15:13:03 ON 28 JAN 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 28 Jan 2002 VOL 136 ISS 5
FILE LAST UPDATED: 27 Jan 2002 (20020127/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REGlstRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

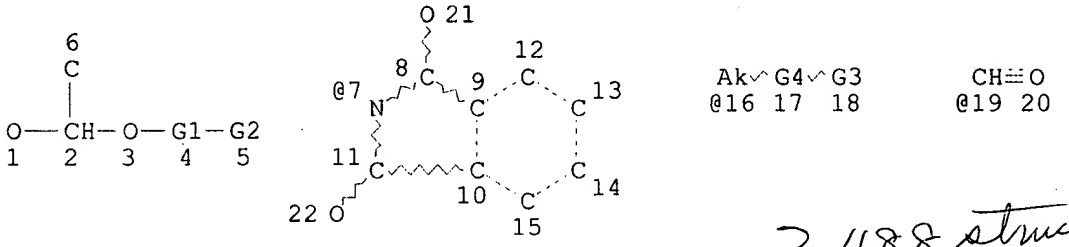
HCAplus now provides online access to patents and literature covered in CA from 1907 to the present. Bibliographic

information and abstracts were added in 2001 for over 3.8 million records from 1907-1966.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the H/Z/CA/CAplus files between 12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches during this period, either directly appended to a CAS Registry Number or by qualifying an L-number with /P, may have yielded incomplete results. As of 1/23/02, the situation has been resolved. Also, note that searches conducted using the PREP role indicator were not affected.

=> D QUE L12
L5 STR



3,488 structures from this query

REP G1=(1-4) CH2
VAR G2=O/N/S/19/7/16/CB/CN
VAR G3=CB/AK
VAR G4=O/N
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 20
CONNECT IS E1 RC AT 21
CONNECT IS E1 RC AT 22
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
L7 3488 SEA FILE=REGISTRY SSS FUL L5
L8 1409 SEA FILE=HCAPLUS ABB=ON L7
L10 68 SEA FILE=HCAPLUS ABB=ON L8(L)RESIST?
L11 25 SEA FILE=HCAPLUS ABB=ON L8(L)PHOTORESIST?
L12 42 SEA FILE=HCAPLUS ABB=ON (L10 OR L11) AND PHOTO?/SC,SX

=> D L12 1-42 ALL HITSTR

L12 ANSWER 1 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:21787 HCAPLUS
TI Positive-working resist composition
IN Kodama, Kunihiko; Aogo, Toshiaki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-004
ICS G03F007-004; C08F002-44; C08F291-00; C08K005-00; C08K005-16; C08K005-41; C08L101-02; C09K003-00; H01L021-027; C07C381-12; C07C381-14
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38
FAN.CNT 1

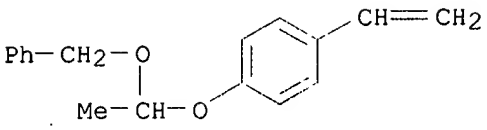
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002006480	A2	20020109	JP 2000-188077	20000622

AB The pos.-working resist compn. comprises (a) a resin which decomps. upon contacting an acid, resulting in increasing its soly. in an alkali developer, (b1) .gtoreq.1 photoacid having .gtoreq.2 sulfonium cation structure, and (b2) .gtoreq.1 photoacid having a bis(sulfonyl)diazomethane structure. The title compn. increased the soly. discrimination between exposed and nonexposed areas.

ST photoresist compn photoacid resin
IT INDEXING IN PROGRESS
IT Photoresists
(resins and photoacids contained in pos.-working resist compn.)
IT 138529-81-4 138529-84-7 177786-98-0 195072-47-0 214208-12-5 228871-07-6 270563-96-7 338445-31-1 343629-55-0
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid; resins and photoacids contained in pos.-working resist compn.)
IT 158593-28-3P, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene copolymer 199432-81-0P 199432-82-1P 200808-68-0P, tert-Butyl acrylate-p-hydroxystyrene-styrene copolymer **288620-15-5P**, p-(1-Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer **289706-85-0P**, p-Acetoxystyrene-p-(1-benzyloxyethoxy)styrene-p-hydroxystyrene copolymer 297742-32-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; resins and photoacids contained in pos.-working **resist** compn.)
IT **288620-15-5P**, p-(1-Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer **289706-85-0P**, p-Acetoxystyrene-p-(1-benzyloxyethoxy)styrene-p-hydroxystyrene copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; resins and photoacids contained in pos.-working **resist** compn.)
RN 288620-15-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

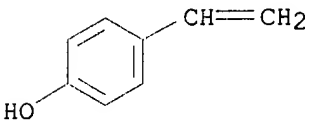
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

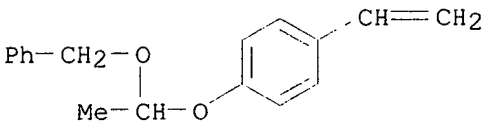
CRN 2628-17-3
CMF C8 H8 O



RN 289706-85-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

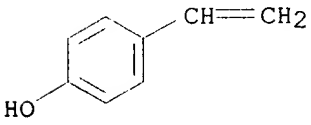
CM 1

CRN 288620-14-4
CMF C17 H18 O2



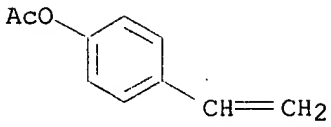
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 2628-16-2
CMF C10 H10 O2



L12 ANSWER 2 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:760378 HCAPLUS
DN 135:310932
TI Positive-working photoresist compositions for semiconductor device fabrication
IN Sato, Kenichiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08F220-26; C08F222-00; C08F230-08; C08F232-00; C08K005-00; C08L035-00; C08L043-04; C08L101-06; G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001290273	A2	20011019	JP 2000-106810	20000407

AB The compns., which show high sensitivity, high resoln., and good PED (post exposure delay) stability and are esp. useful in contact hole formation, contain (A) resins which have a repeating unit (I) [CH2CH[(CH2)nSiR1R2R3]] (R1-R3 = alkyl, haloalkyl, alkoxy, trialkylsilyl, trialkylsilyloxy; n = 0, 1) and another repeating unit (II) having a group CO2CHR11OR12 (R11 = H, alkyl; R12 = hydrocarbyl) and show increased soly. in an alk. developer by acid compn. and (B) compds. which generate acids upon irradn. with actinic ray or radiation. The resins may have a repeating unit derived from maleic anhydride or maleimide.
ST pos photoresist silyl contg copolymer; semiconductor device fabrication pos photoresist
IT Positive photoresists
Semiconductor device fabrication
(pos. photoresist compns. with good post exposure delay stability contg. resins having silyl group)
IT 945-51-7P, Diphenyl sulfoxide 3240-34-4P, Iodosobenzene diacetate 81416-41-3P 258342-09-5P 366814-96-2P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(photoacid generator prepn. from; pos. photoresist compns. with good post exposure delay stability contg. resins having silyl group)
IT 108-67-8, Mesitylene, reactions 591-50-4, Iodobenzene 1818-07-1, Octyl phenyl ether 2049-95-8, tert-Amylbenzene 2189-60-8, Octylbenzene 2795-39-3 2926-27-4, Potassium trifluoromethanesulfonate 7758-05-6, Potassium iodate 120193-44-4
RL: RCT (Reactant)
(photoacid generator prepn. from; pos. photoresist compns. with good post exposure delay stability contg. resins having silyl group)
IT 66003-78-9 138529-81-4 138529-84-7 144089-15-6 206861-54-3 301525-08-6 312386-77-9 324771-13-3
RL: CAT (Catalyst use); USES (Uses)
(photoacid generator; pos. photoresist compns. with good post exposure

delay stability contg. resins having silyl group)

IT 258341-95-6P 258341-96-7P 258341-97-8P 258341-98-9P 258341-99-0P 279218-73-4P 279218-74-5P 279218-75-6P
RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(photoacid generator; pos. photoresist compns. with good post exposure delay stability contg. resins having silyl group)

IT 258342-10-8P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(pos. photoresist compns. with good post exposure delay stability contg. resins having silyl group)

IT 336609-27-9P, Allyltrimethylsilane-ethoxymethyl acrylate-maleic anhydride copolymer 366814-98-4P 366814-99-5P 366815-01-2P 366815-02-3P 366815-04-5P 366815-05-6P **366815-07-8P 366815-09-0P 366815-10-3P** 366815-12-5P 366815-14-7P 366815-15-8P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **photoresist** compns. with good post exposure delay stability contg. resins having silyl group)

IT 576-26-1, 2,6-Xylenol
RL: RCT (Reactant)
(pos. photoresist compns. with good post exposure delay stability contg. resins having silyl group)

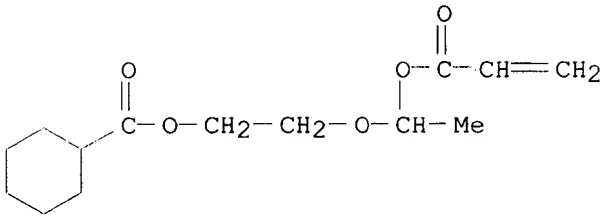
IT **366815-07-8P 366815-09-0P 366815-10-3P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **photoresist** compns. with good post exposure delay stability contg. resins having silyl group)

RN 366815-07-8 HCAPLUS

CN Cyclohexanecarboxylic acid, 2-[1-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

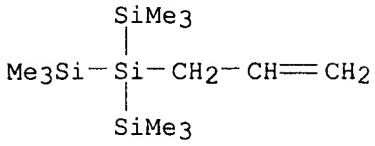
CM 1

CRN 366815-06-7
CMF C14 H22 O5



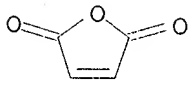
CM 2

CRN 136649-77-9
CMF C12 H32 Si4



CM 3

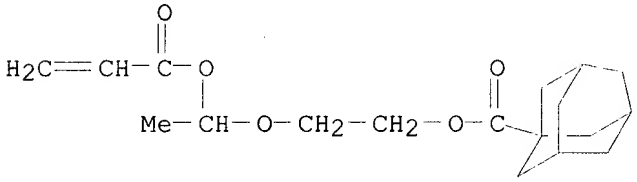
CRN 108-31-6
CMF C4 H2 O3



RN 366815-09-0 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione and 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane (9CI) (CA INDEX NAME)

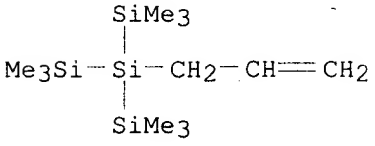
CM 1

CRN 366815-08-9
CMF C18 H26 O5



CM 2

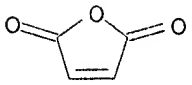
CRN 136649-77-9
CMF C12 H32 Si4



CM 3

CRN 108-31-6
CMF C4 H2 O3

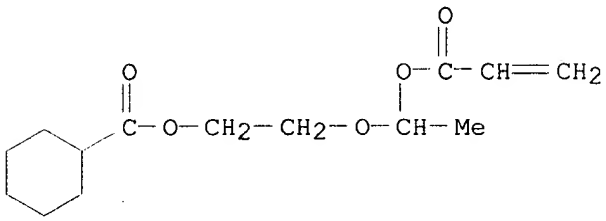
KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290



RN 366815-10-3 HCAPLUS
CN Cyclohexanecarboxylic acid, 2-[1-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and tetrahydro-2-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

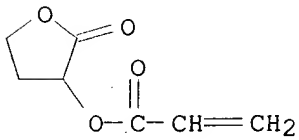
CM 1

CRN 366815-06-7
CMF C14 H22 O5



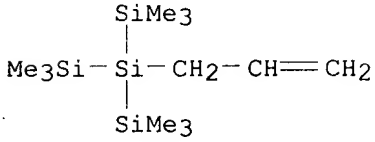
CM 2

CRN 328249-37-2
CMF C7 H8 O4



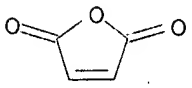
CM 3

CRN 136649-77-9
CMF C12 H32 Si4



CM 4

CRN 108-31-6
CMF C4 H2 O3



L12 ANSWER 3 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:673597 HCAPLUS
DN 135:233902
TI Chemically amplified positive photoresists containing two kinds of acid generators and showing improved exposure margin
IN Kanna, Shinichi; Kodama, Kunihiko
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08K005-00; C08L101-06; G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38, 46

applicants

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001249460	A2	20010914	JP 2000-318057	20001018
	US 2001033993	A1	20011025	US 2000-748198	20001227
PRAI	JP 1999-370355	A	19991227		

AB The photoresists, suited for deep-UV photolithog. in semiconductor device fabrication, comprise (A) acid-labile polymers OCHR1O(CH2)nW (R1 = C1-4 alkyl; W = amino, ammonium, mercapto, aryl, cycloalkyl, and/or org. groups possessing O, N, S, P, and/or Si and C; n = 1-4 integer), (B) two kinds of compds. both generating acids upon exposure of actinic ray, (C) surfactants, (D) solvents, and (E) optional org. bases. The one kinds of the acid generators participate in acidolysis of A and the other kinds don't. The photoresists show minimized line-width variation for dose variation.

ST chem amplified photoresist exposure margin improvement; sulfonic carboxylic acid generator pos photoresist; polyhydroxystyrene ether chem amplified pos photoresist; amylphenyliodonium acetate photoacid generator pos photoresist; base surfactant contg chem amplified photoresist

IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Troysol S 366, surfactants; chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT Photoresists
(UV, deep-UV; chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT Semiconductor device fabrication
Surfactants
(chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT Positive photoresists
(chem. amplified; chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT 484-47-9 1122-58-3 3001-72-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT 108-24-7DP, Acetic anhydride, reaction products with poly-p-hydroxystyrene ethers 926-02-3DP, tert-Butyl vinyl ether, reaction products with poly-p-hydroxystyrene, cyclohexaneethanol, and acetic anhydride 4442-79-9DP, Cyclohexaneethanol, reaction products with poly-p-hydroxystyrene, tert-Bu vinyl ether, and acetic anhydride 24979-70-2DP, VP 8000, ethers **279244-37-0P**, p-[1-(Cyclohexylethoxy)ethoxy]styrene-p-hydroxystyrene copolymer **288620-15-5P**, p-[1-(Benzyloxy)ethoxy]styrene-p-hydroxystyrene copolymer **359434-80-3P 359434-81-4P 359434-83-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplified pos. **photoresists** contg. two kinds of acid generators and showing improved exposure margin)

IT 3744-08-9P, Triphenylsulfonium iodide
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(in prepn. of photoacid generators for chem. amplified pos. photoresists with minimized exposure margin)

IT 62-23-7, p-Nitrobenzoic acid 64-19-7, Acetic acid, reactions 622-47-9, p-Tolylacetic acid 945-51-7, Diphenyl sulfoxide 4270-70-6, Triphenylsulfonium chloride 12027-06-4, Ammonium iodide 208171-92-0, Tetramethylammonium 2,4,6-triisopropylbenzenesulfonate 228871-12-3
RL: RCT (Reactant)
(in prepn. of photoacid generators for chem. amplified pos. photoresists with minimized exposure margin)

IT 138529-81-4 345580-99-6 359434-72-3 359434-74-5 359434-75-6 359434-77-8 359434-78-9 359434-79-0
RL: CAT (Catalyst use); USES (Uses)
(photoacid generators; chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT 19600-49-8P, Triphenylsulfonium acetate 359434-70-1P 359434-71-2P 359434-73-4P 359434-76-7P
RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(photoacid generators; chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

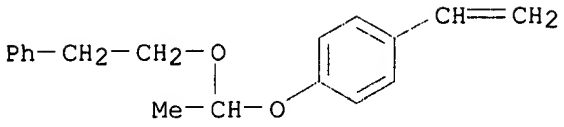
IT 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(surfactants; chem. amplified pos. photoresists contg. two kinds of acid generators and showing improved exposure margin)

IT **279244-37-0P**, p-[1-(Cyclohexylethoxy)ethoxy]styrene-p-hydroxystyrene copolymer **288620-15-5P**, p-[1-(Benzyloxy)ethoxy]styrene-p-hydroxystyrene copolymer **359434-80-3P 359434-81-4P 359434-83-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplified pos. **photoresists** contg. two kinds of acid generators and showing improved exposure margin)

RN 279244-37-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

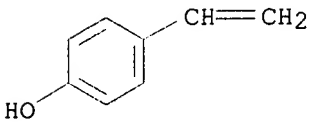
CM 1

CRN 246157-37-9
CMF C18 H20 O2



CM 2

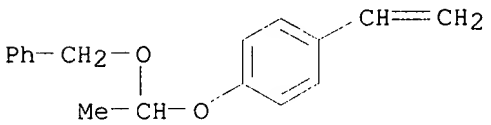
CRN 2628-17-3
CMF C8 H8 O



RN 288620-15-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

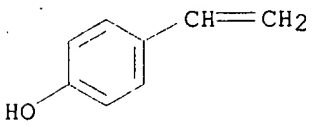
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

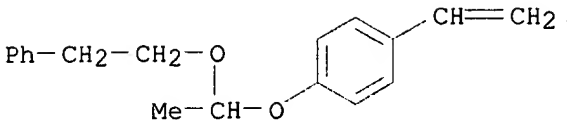
CRN 2628-17-3
CMF C8 H8 O



RN 359434-80-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

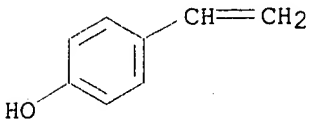
CM 1

CRN 246157-37-9
CMF C18 H20 O2



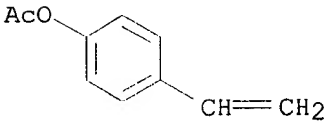
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

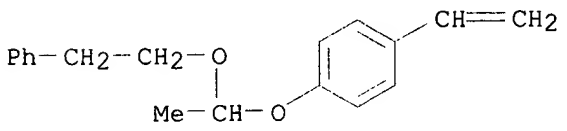
CRN 2628-16-2
CMF C10 H10 O2



RN 359434-81-4 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

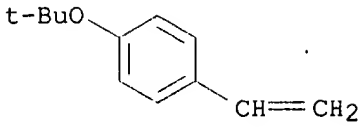
CM 1

CRN 246157-37-9
CMF C18 H20 O2



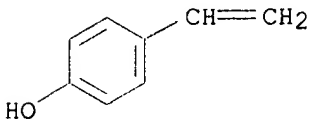
CM 2

CRN 95418-58-9
CMF C12 H16 O



CM 3

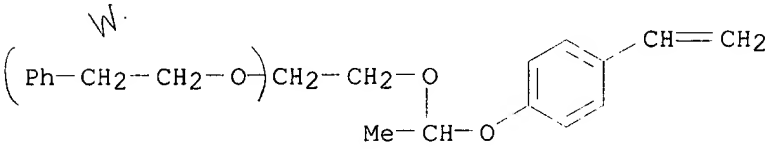
CRN 2628-17-3
CMF C8 H8 O



RN 359434-83-6 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-[2-(2-phenylethoxy)ethoxy]ethoxy]benzene (9CI) (CA INDEX NAME)

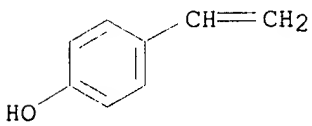
CM 1

CRN 359434-82-5
CMF C20 H24 O3



CM 2

CRN 2628-17-3
CMF C8 H8 O



L12 ANSWER 4 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:615615 HCAPLUS
DN 135:187714
TI Chemically amplified resist composition containing low molecular weight additives
IN Kim, Jae Young; Park, Joo Hyeon
PA Korea Kumho Petrochemical Co. Ltd., S. Korea
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW

DT Patent
LA English
IC G03F007-039; G03F007-004
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1126320	A2	20010822	EP 2001-300088	20010105
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001228613	A2	20010824	JP 2000-321421	20001020
	US 2001041302	A1	20011115	US 2001-759825	20010112
PRAI	KR 2000-7272	A	20000216		

OS MARPAT 135:187714
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Disclosed is a chem. amplified pos. photoresist compn. including: a multi-component copolymer I(X,Y = repeating units II,III or IV(R1-3= H, normal, branched, monocyclic or C1-20 polycyclic alkyl, or C1-20 monocyclic or polycyclic alkyl carbonyl, including acetyl group, t-Bu oxycarbonyl group, cyclohexane carbonyl group, adamantane carbonyl group and bicyclo[2,2,1]heptane Me carbonyl group; p, m, n and q = no. satisfying 0 < p/(p+m+n+q) < 0.5, 0 < m/(p+m+n+q) < 0.5, 0 < n/(p+m+n+q) < 0.35, 0.4 < q/(p+m+n+q) < 0.6, and 0.15 < (p+m)/(p+m+n+q) < 0.5)) having a polystyrene-reduced wt. av. mol. wt. (Mw) of 3,000 to 50,000 and a mol. wt. distribution (Mw/Mn) of 1.0 to 3.0; a low mol. wt. additive R4C(:O)OCH(R6)OR5CH(R6)OC(:O)R4 (R4,R5 = normal, branched, C1-20 monocyclic or polycyclic alkyl group; R6 = H, normal, branched, C1-20 monocyclic or polycyclic alkyl or alkoxy group); an acid generator; and a solvent. The low mol. wt. additive for chem. amplified resist provided by the present invention has a good compatibility with other normal resins and high transparency to radiations as well as thermal stability in the range of temp. used in processing the resist. The low mol. wt. additive is readily decompd. by the action of the acids generated under exposure, generating 2 equiv wts. of carboxyl acids per one equiv. wt. of the low mol. wt. additives to enhance sensitivity and dissoln. rate. Particularly, the additive has a structure contg. a monocyclic or polycyclic alkyl group that increases dry etching resistance. A resist compn. comprising the additive may provide a resist pattern excellent in sensitivity as well as adhesion to substrate and dry etching resistance. Such a resist compn. is a promising material greatly suitable for use in the fabrication of semiconductor devices that are expected to have further fineness. Esp., the resist compn. is suitable for KrF or ArF excimer laser lithog. and thus useful in the fine engineering of less than 0.20 .mu. patterns.

ST pos photoresist compn low mol wt additive

IT Positive photoresists
(Chem. amplified resist compn. contg. low mol. wt. additives)

IT 75-36-5, Acetyl chloride 83-44-3, Deoxycholic acid 98-89-5, Cyclohexane carboxylic acid 107-30-2, Chloromethyl methyl ether 120-74-1, Norbornene carboxylic acid 434-13-9, Lithocholic acid 826-62-0, 5-Norbornene-2,3-dicarboxylic anhydride 828-51-3 2719-27-9, Cyclohexane carbonyl chloride 3891-33-6, Butane diol divinyl ether

5292-43-3, tert-Butylbromoacetate 5453-80-5, 5-Norbornene-2-carboxaldehyde 52034-92-1, Dicyclohexyl acetic acid 130668-21-2, Cyclohexane dimethanol divinyl ether
RL: RCT (Reactant)
(Chem. amplified resist compn. contg. low mol. wt. additives)

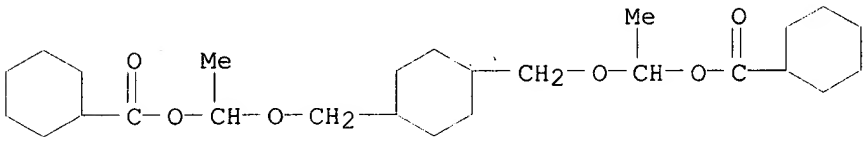
IT 76198-01-1P 195245-82-0P 216308-67-7P 261716-96-5P 261716-97-6P 261716-98-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(Chem. amplified resist compn. contg. low mol. wt. additives)

IT 217798-35-1P 261717-05-9P 261717-06-0P 261717-07-1P 261717-09-3P **354824-03-6P 354824-04-7P 354824-05-8P 354824-06-9P 354824-07-0P 355131-25-8P 355131-26-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Chem. amplified **resist** compn. contg. low mol. wt. additives)

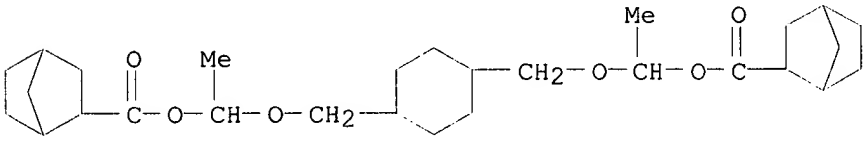
IT 66003-78-9, Triphenyl sulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; Chem. amplified resist compn. contg. low mol. wt. additives)

IT **354824-03-6P 354824-04-7P 354824-05-8P 354824-06-9P 354824-07-0P 355131-25-8P 355131-26-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Chem. amplified **resist** compn. contg. low mol. wt. additives)

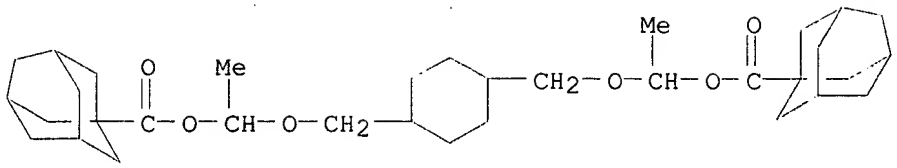
RN 354824-03-6 HCAPLUS
CN Cyclohexanecarboxylic acid, 1,4-cyclohexanediylbis(methyleneoxyethylidene) ester (9CI) (CA INDEX NAME)



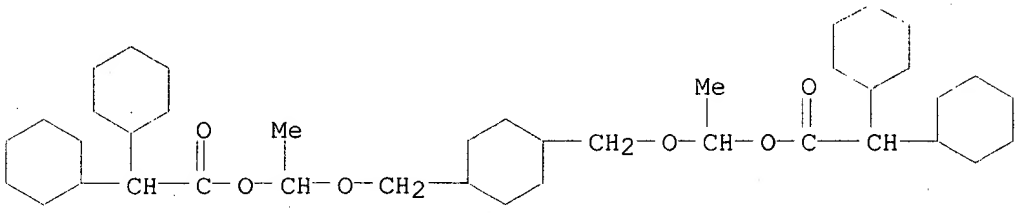
RN 354824-04-7 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 1,4-cyclohexanediylbis(methyleneoxyethylidene) ester (9CI) (CA INDEX NAME)



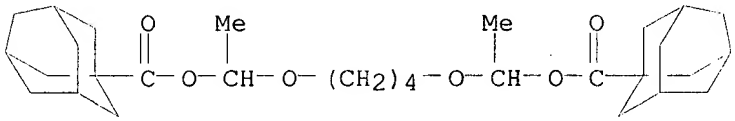
RN 354824-05-8 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 1,4-cyclohexanediylbis(methyleneoxyethylidene) ester (9CI) (CA INDEX NAME)



RN 354824-06-9 HCAPLUS
CN Cyclohexaneacetic acid, .alpha.-cyclohexyl-, 1,4-cyclohexanediylbis(methyleneoxyethylidene) ester (9CI) (CA INDEX NAME)



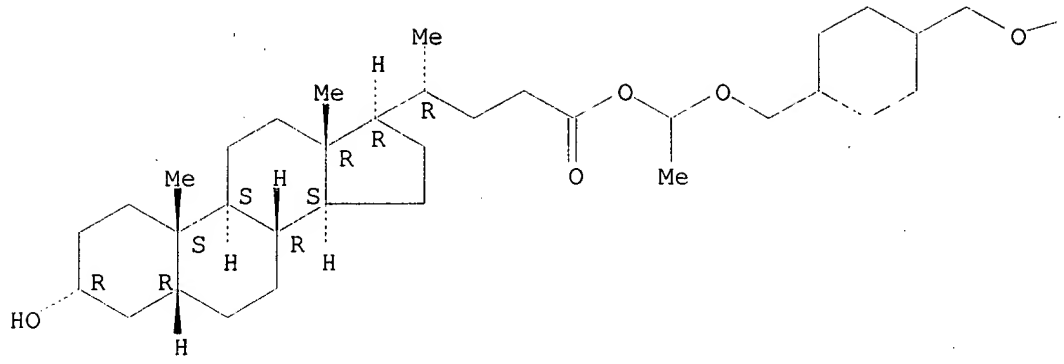
RN 354824-07-0 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 1,4-butanediylbis(oxyethylidene) ester (9CI) (CA INDEX NAME)



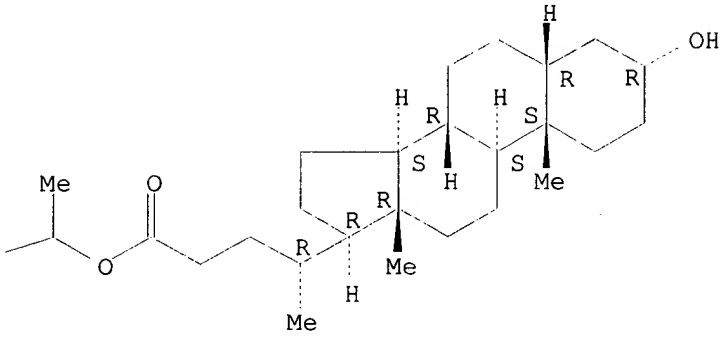
RN 355131-25-8 HCAPLUS
CN Cholan-24-oic acid, 3-hydroxy-, 1,4-cyclohexanediylbis(methyleneoxyethylidene) ester, (3.alpha.,5.beta.)-(3'.alpha.,5'.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



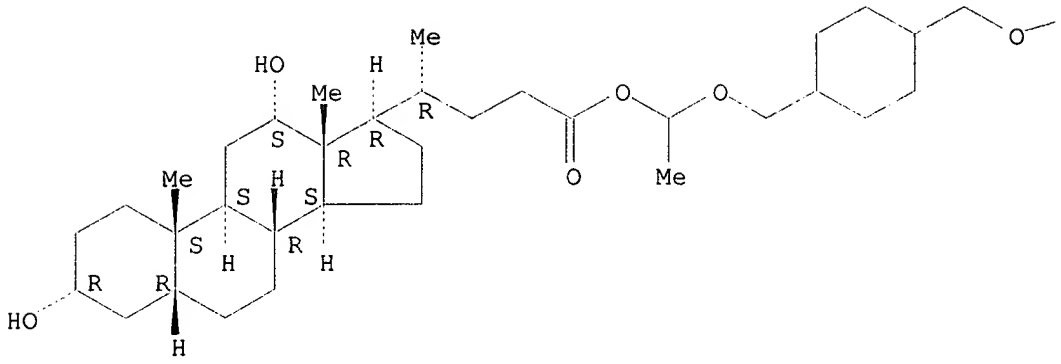
PAGE 1-B



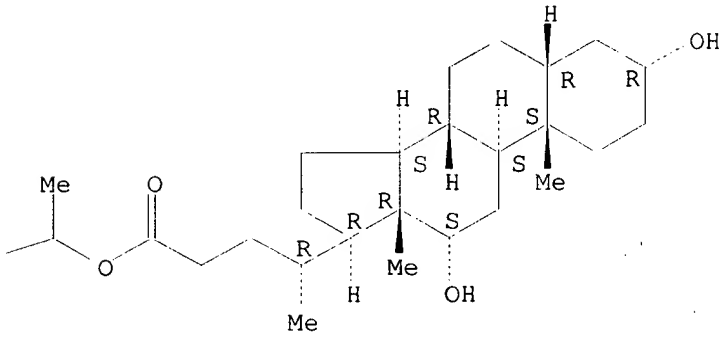
RN 355131-26-9 HCAPLUS
CN Cholan-24-oic acid, 3,12-dihydroxy-, 1,4-cyclohexanediylbis(methyleneoxyethylidene) ester, (3.alpha.,5.beta.,12.alpha.)-(3.alpha.',5.beta.',12'.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



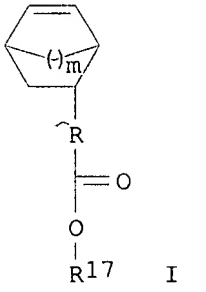
L12 ANSWER 5 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:496393 HCAPLUS
DN 135:99846
TI Photoresist polymers, their compositions for resist flow processes, manufacture of their patterns for formation of contact holes, and semiconductor devices
IN Lee, Kun Su; Kim, Jin Su; Kim, Hyung Su; Paik, Ki Ho
PA Hyundai Electronics Industries Co., Ltd., S. Korea
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; G03F007-40; H01L021-027; H01L021-768; H01L021-3065

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38, 76

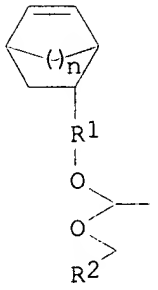
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001188350	A2	20010710	JP 2000-335989	20001102
	GB 2360774	A1	20011003	GB 2000-26800	20001102
PRAI	KR 1999-48075	A	19991102		
	KR 1999-56545	A	19991210		

GI



I



II

AB The compns. comprise (A) photoresist polymers consisting of (a) copolymers contg. CH2:CH(p-C6H4OCHMeOCH2R2) or cycloolefin derivs. I and (b) copolymers contg. CH2:CR8[C(:O)OR17] or cycloolefin derivs. II [R2 = H, (un)substituted C1-10 alkyl, aryl; R8 = H, Me; R17 = acid-labile protective group; R, R1 = (un)substituted C0-10 alkylene; m, n = 1, 2], (B) photoacid generators, and (C) org. solvents. Patterns are manufd. by forming primary photoresist patterns from the compns. and thermally flowing the patterns to form secondary photoresist patterns. The compns. show moderate change in flow sensitivity and no standing wave effects.

ST photoresist styrene polymer blend contact hole formation; semiconductor photoresist styrene polymer blend flow sensitivity

IT Contact holes
Positive photoresists
Semiconductor device fabrication
(photoresists contg. polymer blends with improved flow characteristics for formation of contact holes)

IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)

(photoresists contg. polymer blends with improved flow characteristics for formation of contact holes)

IT 52754-92-4, Diphenyliodonium hexafluoroantimonate 57835-99-1, Triphenylsulfonium hexafluorophosphate 57840-38-7, Triphenylsulfonium hexafluoroantimonate 57900-42-2, Triphenylsulfonium hexafluoroarsenate 58109-40-3, Diphenyliodonium hexafluorophosphate 62613-15-4, Diphenyliodonium hexafluoroarsenate 66003-78-9, Triphenylsulfonium triflate 81416-37-7 116808-67-4, Diphenyl(p-methoxyphenyl)sulfonium triflate 145612-66-4 195245-87-5 255056-42-9
RL: CAT (Catalyst use); USES (Uses)
(photoacid generators; photoresists contg. polymer blends with improved flow characteristics for formation of contact holes)

IT 177034-67-2P 200808-68-0P, tert-Butyl acrylate-4-hydroxystyrene-styrene copolymer 348108-54-3P, 4-(1-Ethoxy)ethoxystyrene-4-hydroxystyrene-neopentyl glycol diacrylate-styrene copolymer **348108-57-6P** 348108-59-8P, tert-Butyl acrylate-4-hydroxystyrene-neopentyl glycol diacrylate-styrene copolymer 348108-62-3P, tert-Butyl acrylate-2,4-dimethyl-2,4-pentanediol diacrylate-4-hydroxystyrene-styrene copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoresists** contg. polymer blends with improved flow characteristics for formation of contact holes)

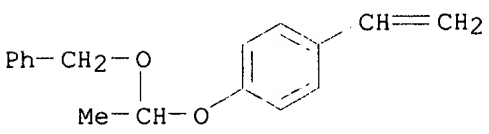
IT 97-64-3, Ethyl lactate 108-94-1, Cyclohexanone, uses 763-69-9, Ethyl 3-ethoxypropionate 1320-67-8, Propylene glycol methyl ether 3852-09-3, Methyl 3-methoxypropionate 84540-57-8, Propylene glycol methyl ether acetate
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; photoresists contg. polymer blends with improved flow characteristics for formation of contact holes)

IT **348108-57-6P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoresists** contg. polymer blends with improved flow characteristics for formation of contact holes)

RN 348108-57-6 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with ethenylbenzene and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

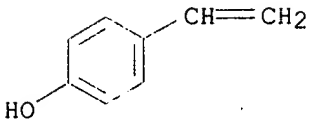
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

L12 ANSWER 6 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:261353 HCAPLUS
DN 134:303020
TI Far-UV sensitive positive-working chemically amplified photoresist composition for micro photolithography
IN Sato, Kenichiro; Kodama, Kunihiko; Aogo, Toshiaki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 45 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001100421	A2	20010413	JP 1999-280202	19990930

AB The title compn. contains a photoacid generator and a resin increasing the soly. towards an alkali developer by reacting with an acid, wherein the resin has a quaternary ammonium salt group. The addn. of the acid-sensitive resin contg. quaternary ammonium salt group to the compn. provides improved development characteristics and eliminates rough edges on the pattern.
ST far UV sensitive pos chem amplified photoresist compn photolithog
IT Light-sensitive materials
Photolithography
Photoresists
(far-UV sensitive pos.-working photoresist compn. for micro photolithog.)
IT Quaternary ammonium compounds, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(far-UV sensitive pos.-working photoresist compn. for micro photolithog.)
IT 334642-76-1DP, partially hydrolyzed 334642-79-4DP, partially hydrolyzed
334642-82-9DP, partially hydrolyzed 334642-85-2DP, partially hydrolyzed
334642-89-6DP, partially hydrolyzed 334642-93-2DP, partially hydrolyzed
334642-98-7DP, partially hydrolyzed 334643-02-6DP, partially hydrolyzed
334643-05-9DP, partially hydrolyzed 334643-09-3DP, partially hydrolyzed
334643-12-8DP, partially hydrolyzed 334643-16-2P 334643-19-5DP,

partially hydrolyzed 334643-22-0DP, partially hydrolyzed **334643-24-2DP**, partially hydrolyzed **334643-28-6DP**, partially hydrolyzed **334643-31-1DP**, partially hydrolyzed **334643-36-6DP**, partially hydrolyzed **334643-39-9DP**, partially hydrolyzed **334643-42-4DP**, partially hydrolyzed 334643-44-6P 334643-47-9P 334643-50-4P 334643-54-8P 334643-57-1P 334643-62-8P 334643-65-1P 334643-69-5P 334643-72-0P 334643-75-3P 334643-78-6P 334666-19-2DP, partially hydrolyzed 334666-22-7P 334666-25-0P 334666-27-2P 334666-29-4P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin contg. quaternary ammonium salt group in far-UV sensitive pos.-working chem. amplified **photoresist** compn.)

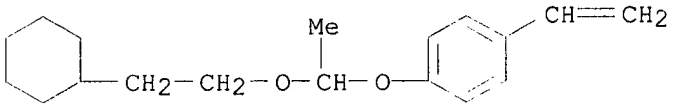
IT **334643-24-2DP**, partially hydrolyzed **334643-28-6DP**, partially hydrolyzed **334643-31-1DP**, partially hydrolyzed **334643-36-6DP**, partially hydrolyzed **334643-39-9DP**, partially hydrolyzed **334643-42-4DP**, partially hydrolyzed
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin contg. quaternary ammonium salt group in far-UV sensitive pos.-working chem. amplified **photoresist** compn.)

RN 334643-24-2 HCAPLUS

CN Benzenemethanaminium, 4-ethenyl-N,N,N-trimethyl-, salt with pentafluorobenzenesulfonic acid (1:1), polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2
CMF C18 H26 O2

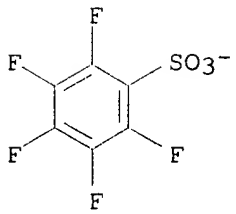


CM 2

CRN 334642-81-8
CMF C12 H18 N . C6 F5 O3 S

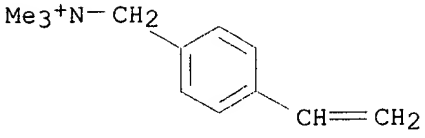
CM 3

CRN 46377-88-2
CMF C6 F5 O3 S



CM 4

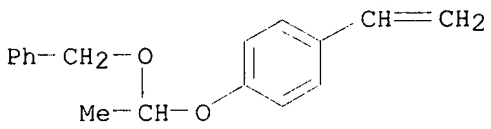
CRN 46231-82-7
CMF C12 H18 N



RN 334643-28-6 HCAPLUS
CN Benzenemethanaminium, 4-ethenyl-N,N,N-trimethyl-, salt with 4-methylbenzenesulfonic acid (1:1), polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4
CMF C17 H18 O2

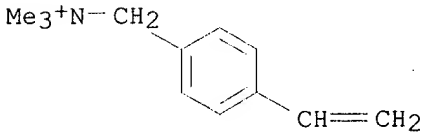


CM 2

CRN 334643-27-5
CMF C12 H18 N . C7 H7 O3 S

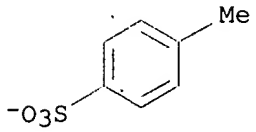
CM 3

CRN 46231-82-7
CMF C12 H18 N



CM 4

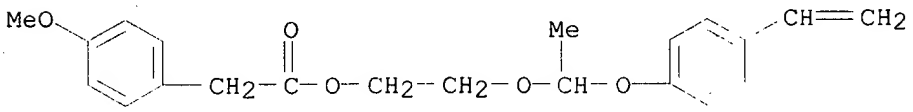
CRN 16722-51-3
CMF C7 H7 O3 S



RN 334643-31-1 HCAPLUS
CN Benzenemethanaminium, 4-ethenyl-N,N-diethyl-N-methyl-, salt with 2,4,6-trimethylbenzenesulfonic acid (1:1), polymer with 2-[1-(4-ethenylphenoxy)ethoxy]ethyl 4-methoxybenzeneacetate (9CI) (CA INDEX NAME)

CM 1

CRN 326592-03-4
CMF C21 H24 O5

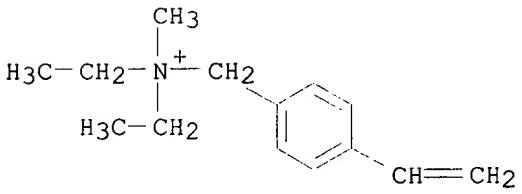


CM 2

CRN 334643-30-0
CMF C14 H22 N . C9 H11 O3 S

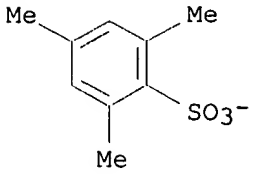
CM 3

CRN 107607-02-3
CMF C14 H22 N



CM 4

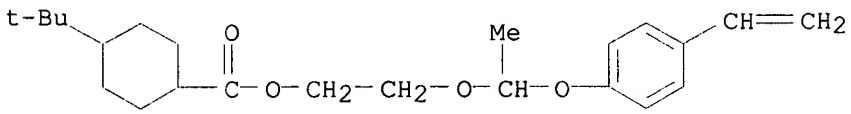
CRN 46149-61-5
CMF C9 H11 O3 S



RN 334643-36-6 HCAPLUS
CN Benzenemethanaminium, 4-ethenyl-N,N,N-triethyl-, salt with 2,4,6-tris(1-methylethyl)benzenesulfonic acid (1:1), polymer with 2-[1-(4-ethenylphenoxy)ethoxy]ethyl 4-(1,1-dimethylethyl)cyclohexanecarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 334643-35-5
CMF C23 H34 O4

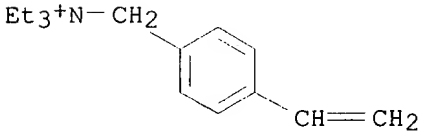


CM 2

CRN 334643-34-4
CMF C15 H24 N . C15 H23 O3 S

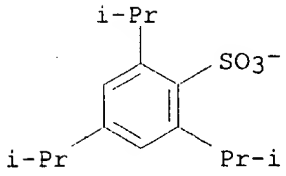
CM 3

CRN 62858-92-8
CMF C15 H24 N



CM 4

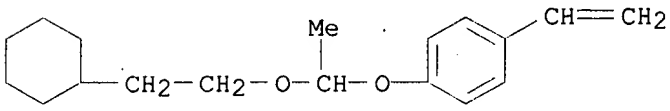
CRN 46950-23-6
CMF C15 H23 O3 S



RN 334643-39-9 HCAPLUS
CN Benzenemethanaminium, 4-ethenyl-N,N,N-trimethyl-, salt with 7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1), polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

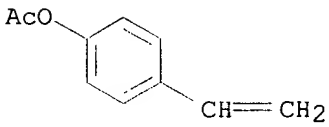
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

CRN 2628-16-2
CMF C10 H10 O2

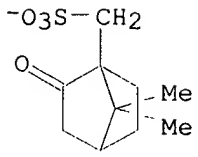


CM 3

CRN 334643-38-8
CMF C12 H18 N . C10 H15 O4 S

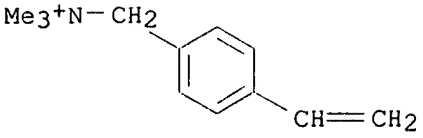
CM 4

CRN 55077-28-6
CMF C10 H15 O4 S



CM 5

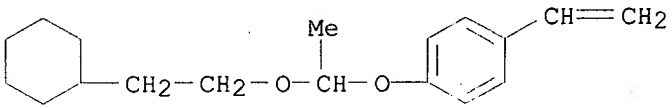
CRN 46231-82-7
CMF C12 H18 N



RN 334643-42-4 HCAPLUS
CN Piperidinium, 1-[(4-ethenylphenyl)methyl]-1-methyl-, salt with pentafluorobenzenesulfonic acid (1:1), polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI) (CA INDEX NAME)

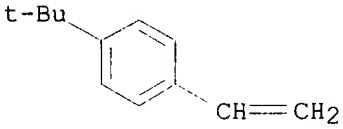
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

CRN 1746-23-2
CMF C12 H16

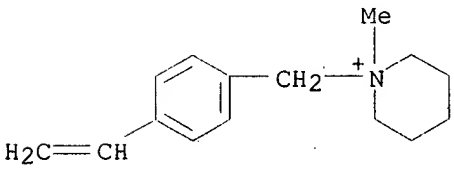


CM 3

CRN 334643-01-5
CMF C15 H22 N . C6 F5 O3 S

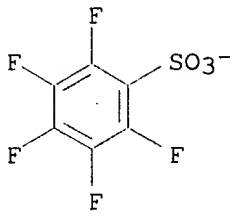
CM 4

CRN 113578-31-7
CMF C15 H22 N



CM 5

CRN 46377-88-2
CMF C6 F5 O3 S



L12 ANSWER 7 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:225519 HCAPLUS
DN 134:259213
TI Positive-working photoresist resin composition containing acid-sensitive solubility-controlling agent
IN Tan, Shiro; Fujimori, Toru
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

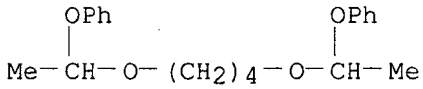
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001083709	A2	20010330	JP 1999-255798	19990909

AB The compn. contains an acid-sensitive soly.-controlling agent, a photoacid generator, a solvent, and an alkali sol. resin. The acid-sensitive soly.-controlling agent has structure (HO)a-R1-[-O-CH(CH3)-O-Ar]n-a (n.gtoreq.2 integer; R1 = n valent orgs.; Ar = aryl; a.gtoreq.0 integer; (n-a).gtoreq.1 integer). The addn. of acid-sensitive soly.-controlling agent to the compn. provides a pattern of the improved line edge roughness, the high sensitivity, and the high resoln to the photoresist.
ST pos photoresist resin compn acid sensitive soly controlling agent
IT Light-sensitive materials
Photomasks (lithographic masks)
Photoresists
(pos.-working photoresist resin compn. contg. acid-sensitive soly. controlling agent)
IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 98-54-4, p-tert-Butylphenol 108-95-2, Phenol, reactions 126-30-7, 2,2-Dimethyl-1,3-propanediol 126-58-9, Dipentaerythritol 556-48-9, 1,4-Cyclohexanediol 626-18-6, 1,3-Benzenedimethanol 20601-38-1, 4,4'-Dihydroxydicyclohexane 23235-61-2, Ditrimethylolpropane
RL: RCT (Reactant)
(acid-sensitive soly. controlling agent in pos.-working photoresist resin compn.)
IT **331669-60-4P** 331669-61-5P 331669-62-6P 331669-64-8P 331669-66-0P **331669-68-2P** **331669-70-6P** **331669-72-8P** **331669-74-0P** **331669-76-2P**

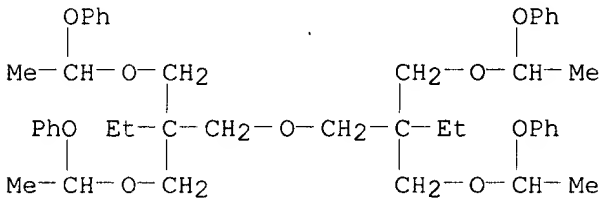
331669-78-4P 331669-80-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-sensitive soly. controlling agent in pos.-working **photoresist** resin compn.)

IT **331669-60-4P 331669-68-2P 331669-70-6P**
331669-72-8P 331669-74-0P 331669-76-2P
331669-78-4P 331669-80-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-sensitive soly. controlling agent in pos.-working **photoresist** resin compn.)

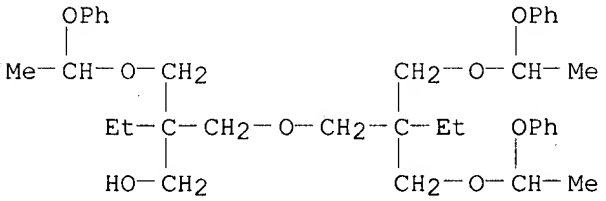
RN 331669-60-4 HCAPLUS
CN Benzene, 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis- (9CI) (CA INDEX NAME)



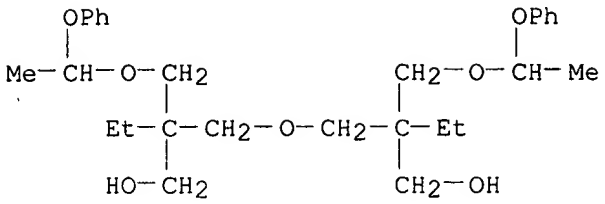
RN 331669-68-2 HCAPLUS
CN Benzene, 1,1'-[[2-[[2,2-bis[(1-phenoxyethoxy)methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl]bis(oxyethylideneoxy)]bis- (9CI) (CA INDEX NAME)



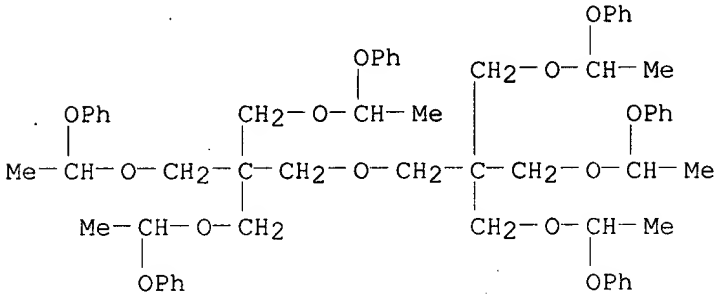
RN 331669-70-6 HCAPLUS
CN 1-Butanol, 2-[[2,2-bis[(1-phenoxyethoxy)methyl]butoxy]methyl]-2-[(1-phenoxyethoxy)methyl]- (9CI) (CA INDEX NAME)



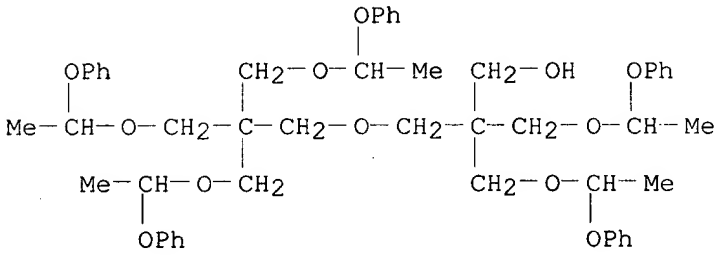
RN 331669-72-8 HCAPLUS
CN 1-Butanol, 2,2'-[oxybis(methylene)]bis[2-[(1-phenoxyethoxy)methyl]- (9CI) (CA INDEX NAME)



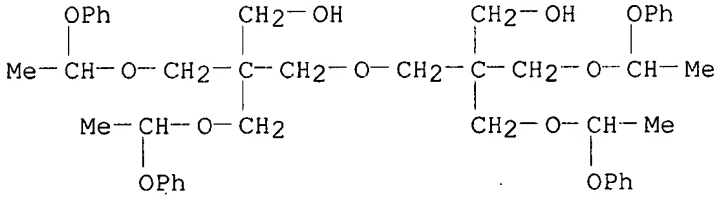
RN 331669-74-0 HCAPLUS
CN Benzene, 1,1'-[oxybis[[2,2-bis[(1-phenoxyethoxy)methyl]-3,1-propanediyl]oxyethylideneoxy]]bis- (9CI) (CA INDEX NAME)



RN 331669-76-2 HCAPLUS
CN 1-Propanol, 3-[3-(1-phenoxyethoxy)-2,2-bis[(1-phenoxyethoxy)methyl]propoxy]-2,2-bis[(1-phenoxyethoxy)methyl]- (9CI) (CA INDEX NAME)

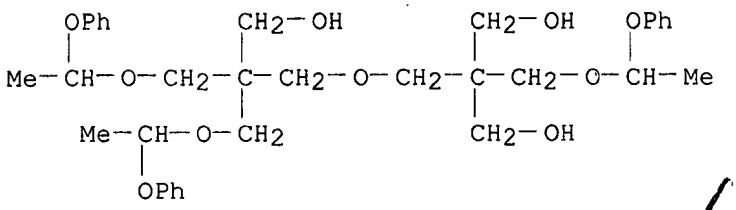


RN 331669-78-4 HCAPLUS
CN 1-Propanol, 3,3'-oxybis[2,2-bis[(1-phenoxyethoxy)methyl]- (9CI) (CA INDEX NAME)



RN 331669-80-8 HCAPLUS

CN 1,3-Propanediol, 2-[[3-hydroxy-2,2-bis[(1-phenoxyethoxy)methyl]propoxy]methyl]-2-[(1-phenoxyethoxy)methyl]- (9CI) (CA INDEX NAME)



L12 ANSWER 8 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:98663 HCAPLUS
DN 134:170820
TI Positive-working silicone-containing photosensitive compositions
IN Yasunami, Shoichiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-075
ICS C08L083-06; G03F007-039; G03F007-36
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001033974	A2	20010209	JP 1999-202179	19990715

GI

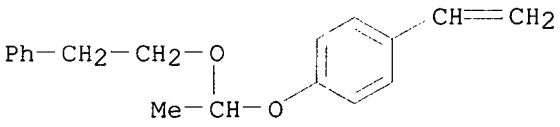
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The compns. contain (a) alk.-sol. and water-insol. polymer comprising of I and/or II (X = COR, CH(OH)R, carboxyl; R = H, (un)substituted hydrocarbon; R1-5 = OH, (un)substituted (cyclo)alkyl, alkoxy, alkenyl, aralkyl, Ph; Y = alkyl, alkoxy, siloxyl, R0 = H, halogen, (un)substituted aliph. or arom. hydrocarbon; l, m, n, q = 0, pos. no.; p = pos. no.), (b) compds. generating acid on irradn. of active ray or radiant ray, (c) polymers contg. acid-decomposable groups and showing increase of soly. to alk. developer on reaction with acid, and (d) Si-contg. nonpolymeric compd. contg. acid-decomposable groups and showing increase of soly. to alk. developer on reaction with acid. Far UV photoresists with high sensitivity and resoln. are obtained.
ST pos working polysilicone photoresist; silsesquioxane pos working photoresist
IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(Me Ph, acetylated; pos.-working silicon-contg. photoresists for micropattern formation in semiconductor device fabrication)
IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(acetylated; pos.-working silicon-contg. photoresists for micropattern

formation in semiconductor device fabrication)
IT Positive photoresists
(pos.-working silicon-contg. photoresists for micropattern formation in semiconductor device fabrication)
IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working silicon-contg. photoresists for micropattern formation in semiconductor device fabrication)
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 197447-16-8
287925-55-7 325146-85-8
RL: TEM (Technical or engineered material use); USES (Uses)
(acid generator; pos.-working silicon-contg. photoresists for micropattern formation in semiconductor device fabrication)
IT 51350-55-1D, Phenylsilsesquioxane, acetylated 157374-41-9D, Phenylsilsesquioxane, acetylated 177080-68-1 196709-91-8, 4-Hydroxystyrene-4(1-tert-butoxyethoxy)styrene copolymer 199432-82-1
216308-45-1 **279244-37-0** 280566-60-1 **288620-13-3**
289706-85-0 **325143-37-1** 325143-38-2 325143-39-3
325143-40-6 325143-41-7
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working silicon-contg. **photoresists** for micropattern formation in semiconductor device fabrication)
IT **279244-37-0** **288620-13-3** **289706-85-0**
325143-37-1
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working silicon-contg. **photoresists** for micropattern formation in semiconductor device fabrication)
RN 279244-37-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

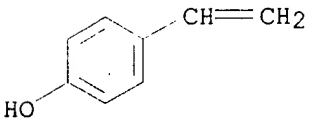
CM 1

CRN 246157-37-9
CMF C18 H20 O2



CM 2

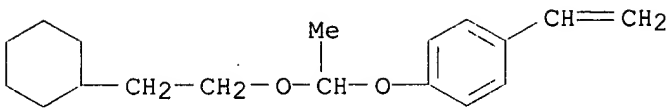
CRN 2628-17-3
CMF C8 H8 O



RN 288620-13-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

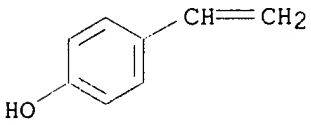
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

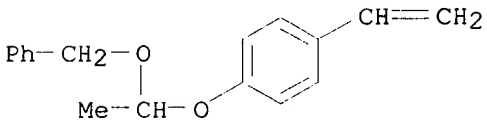
CRN 2628-17-3
CMF C8 H8 O



RN 289706-85-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

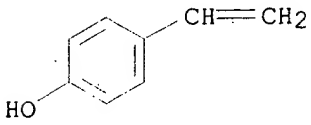
CM 1

CRN 288620-14-4
CMF C17 H18 O2



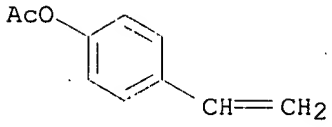
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

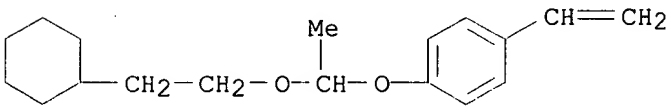
CRN 2628-16-2
CMF C10 H10 O2



RN 325143-37-1 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI) (CA INDEX NAME)

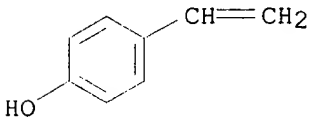
CM 1

CRN 288620-12-2
CMF C18 H26 O2



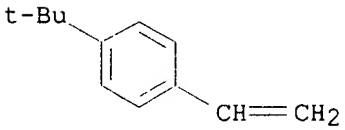
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 1746-23-2
CMF C12 H16



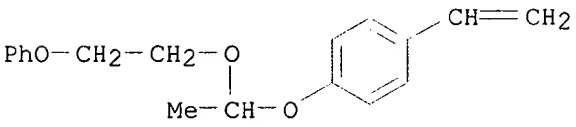
L12 ANSWER 9 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:806368 HCAPLUS
DN 134:185837
TI Structural design of a new class of acetal polymer for DUV resists
AU Fujimori, Toru; Tan, Shiro; Aoai, Toshiaki; Nishiyama, Fumiyuki; Yamanaka, Tsukasa; Momota, Makoto; Kanna, Shinichi; Kawabe, Yasumasa; Yagihara, Morio; Kokubo, Tadayoshi; Malik, Sanjay; Ferreira, Lawrence

CS Research Div. of Yoshida-Minami Factory, Fuji Photo Film Co., Ltd., Haibara-gun Shizuoka, Japan
SO Proc. SPIE-Int. Soc. Opt. Eng. (2000), 3999(Pt. 1, Advances in Resist Technology and Processing XVII), 579-590
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
AB Phys. and lithog. properties of functionalized acetal-based polymers, newly designed bulky acetals, were studied for the use of KrF deep-UV resist. The key structural design was to incorporate some functional groups into the acetal moieties in the polymers through an ether or ester linkage. The polymers were synthesized by reacting poly p-hydroxystyrene with variety of functionalized vinyl ethers that were prepd. with substitution reaction of chloroethyl vinyl ether. By selecting large moieties in size for the functional group, the polymers showed good lithog. performance even with a low level of the acetal blocking. This was advantageous for minimizing the defects that could generally be formed in image development and also for improving dry etch resistance of the resist. The ester- linked polymers showed a high dissoln. discrimination which could be accounted for with dissoln. inhibition induced by a mol. interaction of the ester group with photo acid generator (PAG) in the resist compn. A new class of acetal polymers having addnl. another acid-decomposable group in the functional group is also proposed for achieving a further improvement in lithog. property.
ST acetal polymer pos deep UV chem amplified resist hydroxystyrene
IT Positive photoresists
(chem.-amplified; synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV resists)
IT Acetals
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymers; synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV resists)
IT Dissolution rate
Lithography
Substitution reaction
(synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV resists)
IT Acetals
RL: NUU (Other use, unclassified); USES (Uses)
(synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV resists)
IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(vinyl; synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV resists)
IT **279244-35-8P 326591-91-7P 326591-93-9P**
326591-96-2P 326591-98-4P 326592-04-5P
326592-10-3P 326592-12-5P 326592-15-8P
326592-19-2P 326592-23-8P 326592-27-2P
RL: NUU (Other use, unclassified); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV **resists**)
IT 108-95-2, Phenol, reactions 110-75-8
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); USES (Uses)

(synthesis of acetal-based polymers for deep-UV resists using)
IT 18370-86-0P 24979-70-2P, Poly(4-hydroxystyrene)
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(synthesis of acetal-based polymers for deep-UV resists using)
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Dammel, R; J Photopolym Sci Technol 1999, V11, P687
(2) Fujita, J; Proc SPIE Adv Resist Technol Process 16 1999, V3678, P608 HCAPLUS
(3) Funhoff, D; J Inf Rec Mat 1994, V21, P311 HCAPLUS
(4) Hattori, T; J Photopolym Sci Technol 1996, V9, P611 HCAPLUS
(5) Huang, W; Proc SPIE Adv Resist Technol Process 11 1992, V2195, P37
(6) MacDonald, S; Proc SPIE Adv Resist Technol Process 8 1991, V1466, P2 HCAPLUS
(7) Malik, S; J Photopolym Sci Technol 1998, V11, P431 HCAPLUS
(8) Malik, S; J Photopolym Sci Technol 1999, V12, P591 HCAPLUS
(9) Malik, S; Proc SPIE Adv Resist Technol Process 16 1999, V3678, P388 HCAPLUS
(10) Mertesdorf, C; Proc SPIE Adv Resist Technol Process 8 1991, V2438, P84
(11) Nalamasu, O; Proc SPIE Adv Resist Technol Process 8 1991, V1466, P13 HCAPLUS
(12) Shiraishi, H; J Vac Sci Technol B 1991, V3, P3343
(13) Stewart, J; J Comp Chem 1989, V10, P209 HCAPLUS
IT **279244-35-8P 326591-91-7P 326591-93-9P**
326591-96-2P 326591-98-4P 326592-04-5P
326592-10-3P 326592-12-5P 326592-15-8P
326592-19-2P 326592-23-8P 326592-27-2P
RL: NUU (Other use, unclassified); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(synthesis and phys. and lithog. properties of acetal-based polymers for deep-UV **resists**)
RN 279244-35-8 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenoxyethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

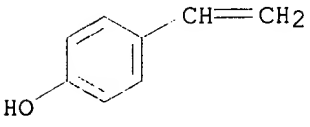
CM 1

CRN 279244-34-7
CMF C18 H20 O3



CM 2

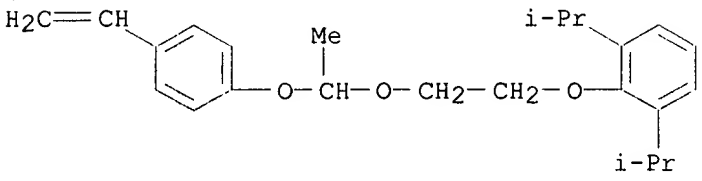
CRN 2628-17-3
CMF C8 H8 O



RN 326591-91-7 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 2-[2-[1-(4-ethenylphenoxy)ethoxy]ethoxy]-1,3-bis(1-methylethyl)benzene (9CI) (CA INDEX NAME)

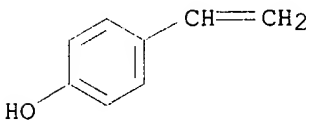
CM 1

CRN 326591-90-6
CMF C24 H32 O3



CM 2

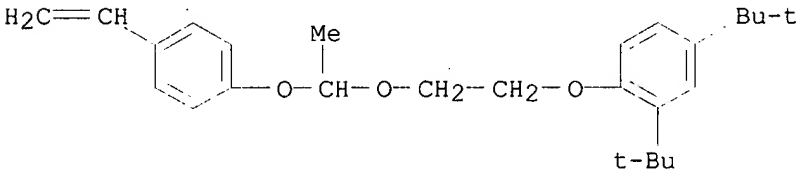
CRN 2628-17-3
CMF C8 H8 O



RN 326591-93-9 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 2,4-bis(1,1-dimethylethyl)-1-[2-[1-(4-ethenylphenoxy)ethoxy]ethoxy]benzene (9CI) (CA INDEX NAME)

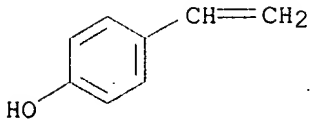
CM 1

CRN 326591-92-8
CMF C26 H36 O3



CM 2

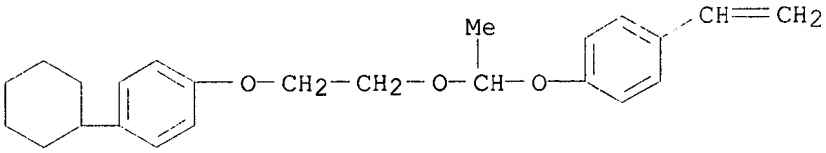
CRN 2628-17-3
CMF C8 H8 O



RN 326591-96-2 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-cyclohexyl-4-[2-[1-(4-ethenylphenoxy)ethoxy]ethoxy]benzene (9CI) (CA INDEX NAME)

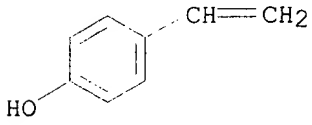
CM 1

CRN 326591-95-1
CMF C24 H30 O3



CM 2

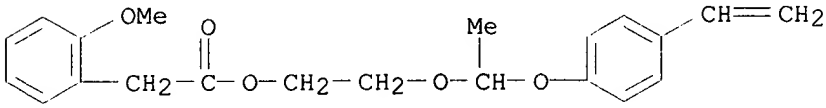
CRN 2628-17-3
CMF C8 H8 O



RN 326591-98-4 HCAPLUS
CN Benzeneacetic acid, 2-methoxy-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

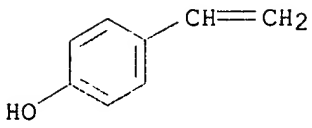
CM 1

CRN 326591-97-3
CMF C21 H24 O5



CM 2

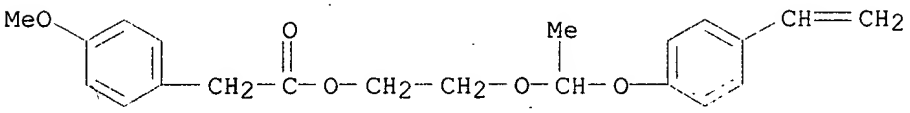
CRN 2628-17-3
CMF C8 H8 O



RN 326592-04-5 HCAPLUS
CN Benzeneacetic acid, 4-methoxy-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

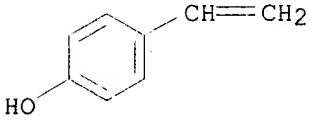
CM 1

CRN 326592-03-4
CMF C21 H24 O5



CM 2

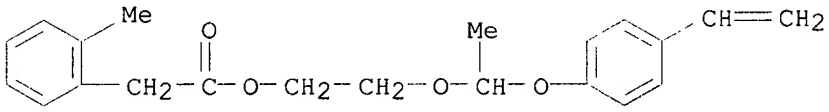
CRN 2628-17-3
CMF C8 H8 O



RN 326592-10-3 HCAPLUS
CN Benzeneacetic acid, 2-methyl-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

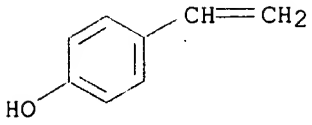
CM 1

CRN 326592-09-0
CMF C21 H24 O4



CM 2

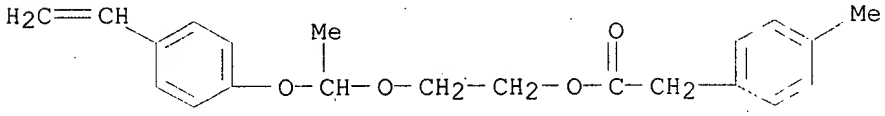
CRN 2628-17-3
CMF C8 H8 O



RN 326592-12-5 HCAPLUS
CN Benzeneacetic acid, 4-methyl-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

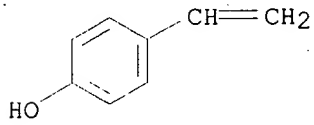
CM 1

CRN 326592-11-4
CMF C21 H24 O4



CM 2

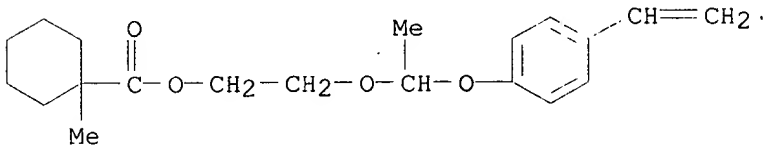
CRN 2628-17-3
CMF C8 H8 O



RN 326592-15-8 HCAPLUS
CN Cyclohexanecarboxylic acid, 1-methyl-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

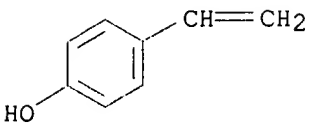
CM 1

CRN 326592-14-7
CMF C20 H28 O4



CM 2

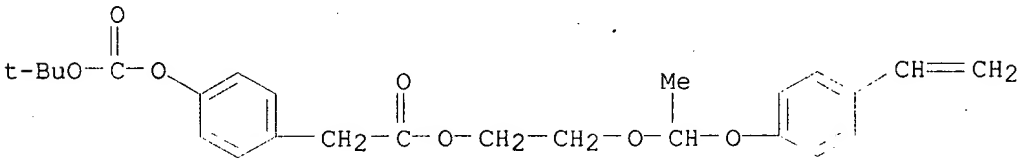
CRN 2628-17-3
CMF C8 H8 O



RN 326592-19-2 HCAPLUS
CN Benzeneacetic acid, 4-[[(1,1-dimethylethoxy)carbonyl]oxy]-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

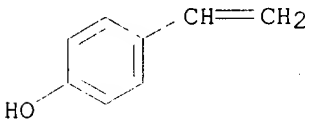
CM 1

CRN 326592-18-1
CMF C25 H30 O7



CM 2

CRN 2628-17-3
CMF C8 H8 O

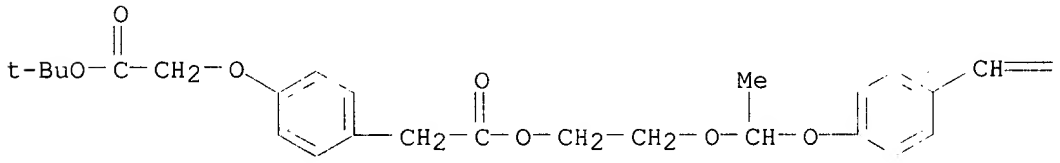


RN 326592-23-8 HCAPLUS
CN Benzeneacetic acid, 4-[2-(1,1-dimethylethoxy)-2-oxoethoxy]-, 2-[1-(4-ethenylphenoxy)ethoxy]ethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 326592-22-7
CMF C26 H32 O7

PAGE 1-A

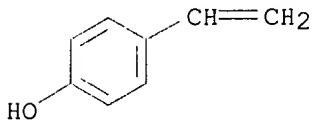


PAGE 1-B

$=CH_2$

CM 2

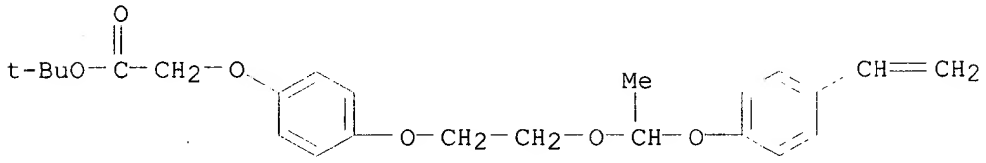
CRN 2628-17-3
CMF C8 H8 O



RN 326592-27-2 HCAPLUS
CN Acetic acid, [4-[2-[1-(4-ethenylphenoxy)ethoxy]ethoxy]phenoxy]-, 1,1-dimethylethyl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

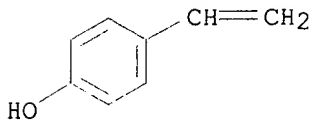
CM 1

CRN 326592-26-1
CMF C24 H30 O6



CM 2

CRN 2628-17-3
CMF C8 H8 O

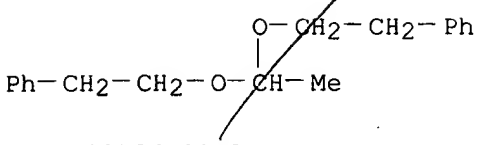


L12 ANSWER 10 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:665821 HCAPLUS
DN 133:274235
TI Radiation sensitive positive-working resist resin composition
IN Tan, Shiro; Aogo, Toshiaki; Fujiomori, Toru
PA Fuji Photo Film Co., Ltd., Japan

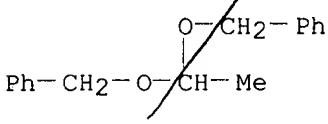
SO Jpn. Kokai Tokkyo Koho, 33 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000258913	A2	20000922	JP 1999-60286	19990308

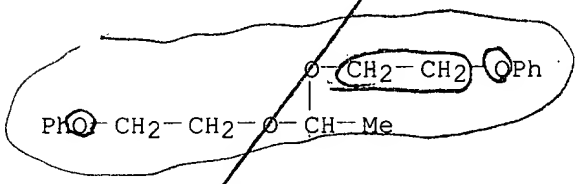
AB The invention relates to a radiation-sensitive pos.-working resist resin compn. contg.: (A) a polymer increasing soly. towards an alkali developer reacting with an acid; (B) a photoacid generator; and (C) an acetal compd. The compn. contg. the acetal is suitable for use in a semiconductor device fabrication and provides high sensitivity and the high resoln.
ST radiation sensitive pos resist resin compn
IT Light-sensitive materials
Photoresists
(radiation sensitive pos.-working resist resin compn.)
IT 100-51-6, Benzenemethanol, reactions 926-02-3, tert-Butyl vinyl ether
RL: RCT (Reactant)
(acetal in radiation-sensitive pos.-working resist resin compn.)
IT **122-71-4P 23556-90-3P 82337-98-2P**
92565-85-0P 297742-33-7P **297742-34-8P**
297742-36-0P 297742-38-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acetal in radiation-sensitive pos.-working **resist** resin compn.)
IT 197447-16-8P 224568-31-4P 297742-41-7P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoacid generator in radiation-sensitive pos.-working resist resin compn.)
IT 24979-70-2P, 4-Hydroxystyrene homopolymer 24979-74-6P, p-Hydroxystyrene-styrene copolymer 129674-22-2P, p-Hydroxystyrene-p-tert-butoxycarbonyloxy styrene copolymer 159296-87-4P, p-Hydroxystyrene-tert-butyl acrylate copolymer 177034-67-2P, p-Hydroxystyrene-p-(1-ethoxyethoxy)styrene-styrene copolymer **289706-85-0P**, p-Hydroxystyrene-p-(1-benzyloxyethoxy)styrene-p-acetoxystyrene copolymer 297742-32-6P, p-Hydroxystyrene-p-(1-phenylethoxy)styrene-p-acetoxystyrene copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymer in radiation-sensitive pos.-working **resist** resin compn.)
IT **122-71-4P 23556-90-3P 82337-98-2P**
92565-85-0P 297742-34-8P 297742-36-0P
297742-38-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acetal in radiation-sensitive pos.-working **resist** resin compn.)
RN 122-71-4 HCAPLUS
CN Benzene, 1,1'-[ethylidenebis(oxy-2,1-ethanediyl)]bis- (9CI) (CA INDEX NAME)



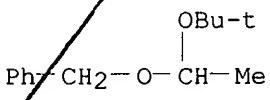
RN 23556-90-3 HCAPLUS
CN Benzene, 1,1'-[ethylidenebis(oxymethylene)]bis- (9CI) (CA INDEX NAME)



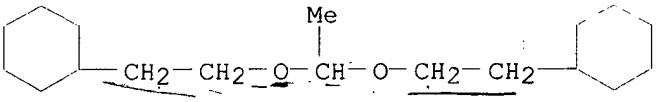
RN 82337-98-2 HCAPLUS
CN Benzene, 1,1'-[ethylidenebis(oxy-2,1-ethanediyloxy)]bis- (9CI) (CA INDEX NAME)



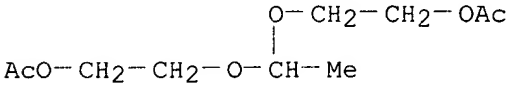
RN 92565-85-0 HCAPLUS
CN Benzene, [[1-(1,1-dimethylethoxy)ethoxy]methyl]- (9CI) (CA INDEX NAME)



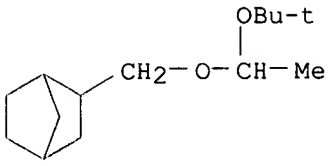
RN 297742-34-8 HCAPLUS
CN Cyclohexane, 1,1'-[ethylidenebis(oxy-2,1-ethanediyl)]bis- (9CI) (CA INDEX NAME)



RN 297742-36-0 HCAPLUS
CN Ethanol, 2,2'-[ethylidenebis(oxy)]bis-, diacetate (9CI) (CA INDEX NAME)



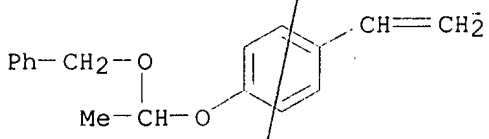
RN 297742-38-2 HCAPLUS
CN Bicyclo[2.2.1]heptane, 2-[[1-(1,1-dimethylethoxy)ethoxy]methyl]- (9CI) (CA INDEX NAME)



IT **289706-85-0P**, p-Hydroxystyrene-p-(1-benzyloxyethoxy)styrene-p-acetoxystyrene copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymer in radiation-sensitive pos.-working **resist** resin compn.)
RN 289706-85-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

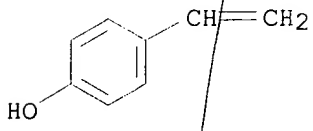
CM 1

CRN 288620-14-4
CMF C17 H18 O2



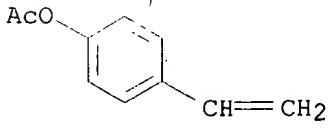
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 2628-16-2
CMF C10 H10 O2



L12 ANSWER 11 OF 42 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:585595 HCAPLUS
DN 133:200845
TI Positive photosensitive compositions containing silicone
IN Aha, Shoichiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-075
ICS G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38, 76
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000231195	A2	20000822	JP 1999-31591	19990209
	US 6270941	B1	20010807	US 2000-493285	20000128
PRAI	JP 1999-20224	A	19990128		
	JP 1999-31591	A	19990209		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The compns. comprise (a) siloxanes I and/or silsesquioxanes II [X = C(O)R, CH(OH)R, carboxyl; R = H, hydrocarbon; R1-5 = OH, (un)substituted alkyl, cycloalkyl, alkoxy, alkenyl, aralkyl, phenyl; Y = allyl, alkoxy, siloxy; R0 = H, halogen, (un)substituted aliph. or arom. hydrocarbon; l, m, n, q = 0, integer; p = integer] that are insol. in water and sol. in alkali, (b) compds. generating acid by irradn. of active beam or radiation, and (c) acid-decomposable group-contg. polymers having structural repeating units II [R11-13, R15-17 = H, halogen, C(O)ZR113, (un)substituted alkyl, aralkyl, alkoxy; Z = single bond, O, NH, etc.; R14, R18 = (CH2)dA, COZR115A; A = (un)substituted mono- to tetravalent phenyl] which increases its soly. into alk. developing agents in the presence of acids. Fine line patterns are formed by irradn. under far UV. The compns. are suitable for semiconductor device fabrication.
ST pos photoresist siloxane semiconductor device fabrication; silsesquioxane pos photoresist far UV sensitive
IT Silsesquioxanes
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(Me Ph; polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)
IT Positive photoresists
Semiconductor device fabrication
(polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)
IT Polysiloxanes, processes
Silsesquioxanes
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)

IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 153698-46-5 197447-16-8 287925-55-7
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(photoacid generator; polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)

IT 51350-55-1P, Polyphenylsilsesquioxane 157374-41-9P, Phenylsilanetriol homopolymer
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)

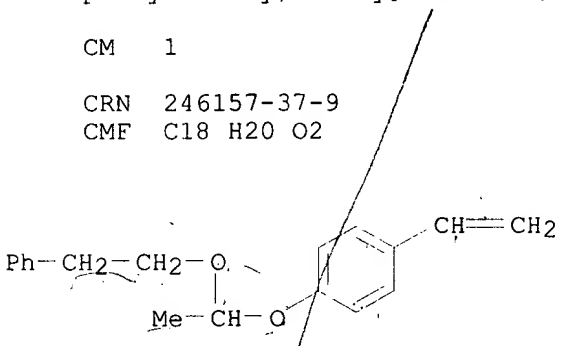
IT 158593-28-3 186769-12-0 196709-91-8 211107-96-9 **279244-37-0** **288620-13-3** **288620-15-5** **288620-17-7** 288620-19-9 **288620-21-3**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polysilicones and/or silsesquioxane pos. **photoresists** for fabrication of semiconductor devices with ultrafine line patterns)

IT **279244-37-0** **288620-13-3** **288620-15-5** **288620-17-7** **288620-21-3**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polysilicones and/or silsesquioxane pos. **photoresists** for fabrication of semiconductor devices with ultrafine line patterns)

RN 279244-37-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

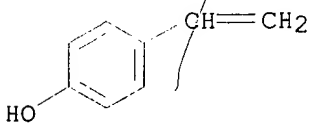
CM 1

CRN 246157-37-9
CMF C18 H20 O2



CM 2

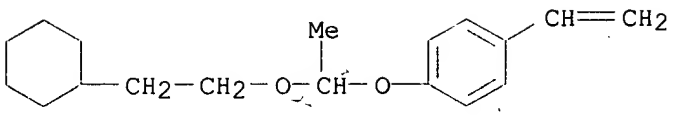
CRN 2628-17-3
CMF C8 H8 O



RN 288620-13-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

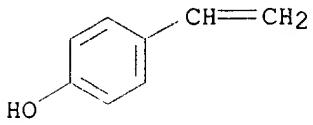
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

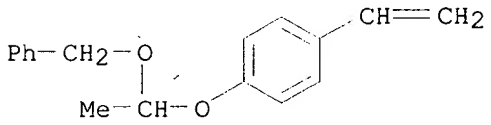
CRN 2628-17-3
CMF C8 H8 O



RN 288620-15-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

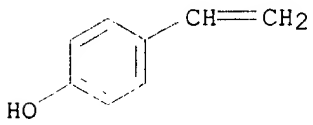
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

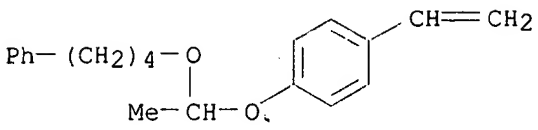
CRN 2628-17-3
CMF C8 H8 O



RN 288620-17-7 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(4-phenylbutoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

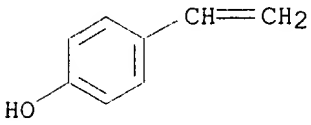
CM 1

CRN 288620-16-6
CMF C20 H24 O2



CM 2

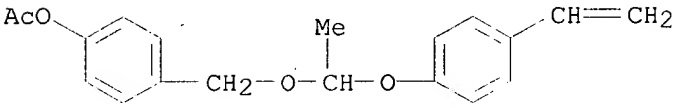
CRN 2628-17-3
CMF C8 H8 O



RN 288620-21-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 4-[[1-(4-ethenylphenoxy)ethoxy]methyl]phenyl acetate (9CI) (CA INDEX NAME)

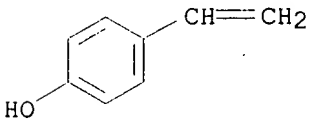
CM 1

CRN 288620-20-2
CMF C19 H20 O4



CM 2

CRN 2628-17-3
CMF C8 H8 O



L12 ANSWER 12 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:452614 HCAPLUS
DN 133:81576
TI Positive-working resist composition for electron beam and x-ray exposure
IN Kodama, Kunihiko; Aogo, Toshiaki; Uenishi, Kazuya
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 59 pp.

CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000187330	A2	20000704	JP 1999-275334	19990928
	US 6265135	B1	20010724	US 1999-419905	19991018
PRAI	JP 1998-295609	A	19981016		
	JP 1999-275334	A	19990928		

Commonly owned

OS MARPAT 133:81576
AB In the resist compns. contg. (a) a compd. which generates an acid by irradn. with an electron beam and x-ray, (b) a resin having groups which are cleaved by the action of acid to increase the soly. in alk. developing solns., and (c) a F-type and/or Si-type surfactant, the acid generator is a compd. generating a benzenesulfonic, naphthalenesulfonic or anthracenesulfonic acid substituted with .gtoreq.1 F and/or a .gtoreq.1 F-contg. group. The resist compns. may contain a low-mol.-wt. dissoln. inhibitor with mol. wt. .ltoreq.3000 which has an acid-cleavable group and of which the dissolving rate in alk. developing solns. increases by the action of acid and a resin insol. in water and sol. in alk. developing solns. in place of (b). The compns. show improved developability and provide high resoln. patterns with good profile.
ST radiation resist arom sulfonic acid generator; fluoro silicon surfactant radiation resist; soly increasing agent resist
IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Troysol S 366; radiation-sensitive resist compn. contg. acid generator, resin having acid-decomposable group, and surfactant)
IT Resists
(radiation-sensitive; radiation-sensitive resist compn. contg. acid generator, resin having acid-decomposable group, and surfactant)
IT 153698-63-6P 153698-69-2P 196709-88-3P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dissoln. inhibitor; radiation-sensitive resist compn. contg. acid generator, resin having acid-decomposable group, and surfactant)
IT 484-47-9, 2,4,5-Triphenylimidazole
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(org. base; radiation-sensitive resist compn. contg. acid generator, resin having acid-decomposable group, and surfactant)
IT 3744-08-9P, Triphenylsulfonium iodide 258342-09-5P 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(prepn. of acid generator)
IT 71-43-2, Benzene, reactions 75-59-2, Tetramethylammonium hydroxide 832-53-1, Pentafluorobenzenesulfonyl chloride 945-51-7 2049-95-8, tert-Amylbenzene 4270-70-6, Triphenylsulfonium chloride 7790-21-8, Potassium periodate 12027-06-4, Ammonium iodide
RL: RCT (Reactant)
(prepn. of acid generator)
IT 110-75-8, 2-Chloroethyl vinyl ether 1131-60-8, p-Cyclohexylphenol
RL: RCT (Reactant)

(prepn. of cyclohexylphenoxyethylvinyl ether)

IT 110-87-2, 3,4-Dihydro-2H-pyran 5292-43-3, tert-Butyl bromoacetate 76937-83-2, .alpha.,.alpha.,.alpha.',.alpha.',.alpha.'',.alpha.''-Hexakis(4-hydroxyphenyl)-1,3,5-triethylbenzene 110726-28-8, 1-[.alpha.-Methyl-.alpha.-(4'-hydroxyphenyl)ethyl]-4-[.alpha.',.alpha.'-bis(4''-hydroxyphenyl) ethyl]benzene 148452-55-5, 1,3,3,5-Tetrakis-(4-hydroxyphenyl)pentane 153698-47-6, Cumyl bromoacetate
RL: RCT (Reactant)
(prepn. of dissoln. inhibitor)

IT 3001-72-7, 1,5-Diazabicyclo[4.3.0]non-5-ene 21545-54-0 137462-24-9, Megafac F176 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(radiation-sensitive resist compn. contg. acid generator, resin having acid-decomposable group, and surfactant)

IT 24979-70-2DP, VP 8000, ethers 95418-59-0DP, p-tert-Butoxystyrene-styrene copolymer, hydrolyzed 147625-42-1P 153698-46-5P, Triphenylsulfonium pentafluorobenzenesulfonate 158593-28-3DP, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene copolymer, ethers with poly(hydroxystyrene) 160309-96-6DP, p-Acetoxystyrene-tert-butyl methacrylate copolymer, sapond. 212555-24-3DP, ethers with poly(hydroxystyrene) 258341-98-9P 270563-93-4P 270563-96-7P **279244-35-8P 279244-37-0P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(radiation-sensitive **resist** compn. contg. acid generator, resin having acid-decomposable group, and surfactant)

IT 24979-70-2, VP 15000 123658-11-7 142096-70-6 153698-66-9 196709-91-8, p-(1-tert-Butoxyethoxy)styrene-p-hydroxystyrene copolymer 270563-98-9 279244-39-2 279244-43-8 279244-45-0 279244-48-3 279244-50-7
RL: TEM (Technical or engineered material use); USES (Uses)
(radiation-sensitive resist compn. contg. acid generator, resin having acid-decomposable group, and surfactant)

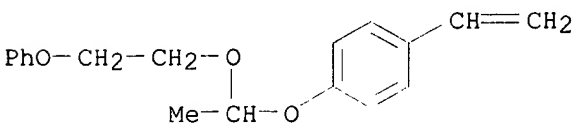
IT **279244-35-8P 279244-37-0P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(radiation-sensitive **resist** compn. contg. acid generator, resin having acid-decomposable group, and surfactant)

RN 279244-35-8 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenoxyethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

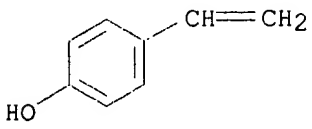
CM 1

CRN 279244-34-7
CMF C18 H20 O3



CM 2

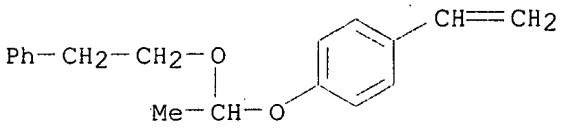
CRN 2628-17-3
CMF C8 H8 O



RN 279244-37-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

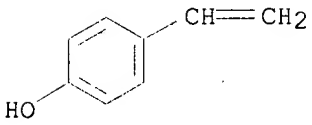
CM 1

CRN 246157-37-9
CMF C18 H20 O2



CM 2

CRN 2628-17-3
CMF C8 H8 O



L12 ANSWER 13 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:70561 HCAPLUS
DN 132:229404
TI Theoretical calculation of photoabsorption of various polymers in an extreme ultraviolet region
AU Matsuzawa, Nobuyuki N.; Oizumi, Hiroaki; Mori, Shigeyasu; Irie, Shigeo; Shirayone, Shigeru; Yano, Ei; Okazaki, Shinji; Ishitani, Akihiko; Dixon, David A.
CS Atsugi Research Center Association of Super-Advanced Electronics Technologies (ASET), NTT Atsugi R and D Center, Atsugi, 243-0198, Japan
SO Jpn. J. Appl. Phys., Part 1 (1999), 38(12B), 7109-7113
CODEN: JAPNDE; ISSN: 0021-4922
PB Japanese Journal of Applied Physics
DT Journal
LA English
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35
AB The authors calcd. the linear absorption coeffs. of various resist polymers using the mass absorption coeffs. at 13 nm and the d. obtained from the graph-theor. treatment derived by Bicerano. The values indicate that the transmittance at 13 nm of conventional resists used in 193-, 248- and 365 nm lithog. is about 30% when the thickness is 3000 .ANG. and

60-70% when it is 1000 .ANG.. This shows that conventional resists are suitable for an EUVL (extreme-UV lithog.) thin-layer resist (TLR) process using a hard-mask layer, but their large photoabsorption makes them unsuitable for a single-layer resist (SLR) process. To design polymers that are suitable for an SLR process, the authors further calcd. the absorption of about 150 polymers. The results suggest that the introduction of arom. groups into a polymer not only reduces the absorption at 13 nm but also increases the etching resistance.

ST theor calcn photoabsorption polymer extreme UV photoresist lithog

IT Etching
Optical absorption
Photoresists
(theor. calcn. of photoabsorption of various polymers in extreme UV region in relation to design of lithog. photoresists)

IT Fluoropolymers, properties
Polyamides, properties
Polycarbonates, properties
Polyesters, properties
Polyimides, properties
Polymers, properties
Polyoxyalkylenes, properties
Polyoxymethylenes, properties
Polyoxyphenylenes
Polysilanes
Polysiloxanes, properties
RL: PRP (Properties)
(theor. calcn. of photoabsorption of various polymers in extreme UV region in relation to design of lithog. photoresists)

IT 9002-84-0 9002-88-4 9002-89-5 9003-01-4 9003-05-8 9003-07-0
9003-09-2 9003-17-2 9003-20-7 9003-21-8 9003-27-4 9003-28-5
9003-31-0 9003-32-1 9003-42-3 9003-49-0 9003-53-6 9003-63-8
9003-77-4 9003-95-6 9004-73-3, Poly[oxy(methylsilylene)] 9005-12-3,
Poly[oxy(methylphenylsilylene)] 9008-66-6 9011-14-7 9011-15-8
9011-52-3 9016-00-6, Poly[oxy(dimethylsilylene)] 9042-43-7 9053-30-9
24936-41-2 24936-44-5 24936-74-1 24936-97-8 24937-05-1
24937-16-4, Poly[imino(1-oxo-1,12-dodecanediyl)] 24937-79-9 24938-37-2
24938-67-8, Poly[oxy(2,6-dimethyl-1,4-phenylene)] 24968-12-5
24968-99-8 24979-70-2 24979-82-6 24979-97-3 24980-41-4
24981-14-4 25014-12-4 25014-15-7 25014-31-7 25014-41-9
25035-04-5, Poly[imino(1-oxo-1,11-undecanediyl)] 25035-84-1 25035-85-2
25036-01-5 25036-21-9 25038-02-2 25038-54-4, Poly[imino(1-oxo-1,6-hexanediyl)], properties 25038-59-9, properties 25038-74-8
25038-87-3 25067-59-8 25067-61-2 25068-26-2 25085-83-0
25087-18-7 25087-26-7 25103-87-1 25104-37-4 25134-01-4
25154-86-3 25189-00-8 25190-06-1 25232-27-3 25248-42-4,
Poly[oxy(1-oxo-1,6-hexanediyl)] 25249-16-5 25266-13-1 25322-68-3
25322-69-4 25569-53-3 25587-80-8 25609-74-9 25639-21-8
25667-11-2 25703-79-1 25719-51-1 25719-52-2 25768-50-7
25986-77-0 25986-80-5 26062-94-2 26098-55-5 26099-71-8,
Poly(oxy-1,4-phenylenecarbonyl) 26124-32-3 26246-91-3 26246-92-4
26335-74-0 26655-94-7 26677-78-1 26715-88-8 26716-20-1
26745-88-0 26760-99-6 26762-07-2 26762-10-7 27015-29-8
27136-65-8 27458-65-7 28158-15-8 28158-21-6 28257-92-3
28323-47-9, Poly[oxy(diethylsilylene)] 28551-45-3 28628-64-0
28725-67-9 28757-63-3 28759-54-8 28776-65-0 28825-60-7
28883-63-8, Poly(dimethylsilylene) 29086-87-1 29320-53-4 29324-52-5
29356-88-5 29500-86-5 30107-43-8 30323-87-6 30729-36-3
31230-04-3 31900-57-9 32029-53-1 32131-17-2, properties 34903-87-2
34962-82-8 36221-42-8 36568-42-0 37017-37-1 39399-28-5
41630-11-9 49718-23-2 52234-59-0 52256-48-1 52352-27-9

56267-41-5 64114-51-8 75454-45-4 75454-99-8 108644-22-0, Poly[oxy(hexylmethylsilylene)] 129401-30-5 156395-50-5 158865-53-3 185329-43-5 185329-44-6, Poly[oxy(hexadecylmethylsilylene)] 189282-51-7 189282-53-9, Poly[oxy(diethoxysilylene)] 258521-90-3 258521-91-4, Poly[oxy(methyltetradecylsilylene)] 261173-36-8
RL: PRP (Properties)
(theor. calcn. of photoabsorption of various polymers in extreme UV region in relation to design of lithog. photoresists)

IT 28549-51-1 29322-78-9 147833-70-3 177080-68-1 181894-84-8 **261173-33-5**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(theor. calcn. of photoabsorption of various polymers in extreme UV region in relation to design of lithog. **photoresists**)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Allen, R; J Photopolym Sci Technol 1996, V9, P465 HCAPLUS
(2) Bicerano, J; Predictions of the Properties of Polymers from Their Structures 1993
(3) Gokan, H; J Electrochem Soc 1983, V130, P143 HCAPLUS
(4) Hawryluck, A; Microlithogr World Summer 1997, P17
(5) Hawryluck, A; Solid State Technol 1997, Aug, P75
(6) Henke, B; Atomic Data & Nucl Data Tables 1993, V54, P181 HCAPLUS
(7) Iwasa, S; J Photopolym Sci Technol 1996, V9, P447 HCAPLUS
(8) Kier, L; Molecular Connectivity in Chemistry and Drug Research 1976
(9) Kier, L; Molecular Connectivity in Structure Activity Analysis 1986
(10) Kubiak, G; J Vac Sci Technol B 1992, V10, P2593 HCAPLUS
(11) Mansfield, W; OSA Proc Soft-X-Ray Projection Lithogr 1991, V12, P129
(12) Matsuzawa, N; J Photopolym Sci Technol 1999, V12, P571 HCAPLUS
(13) Ohfuji, T; Proc SPIE 1996, V2774, P386
(14) Takechi, S; 44th Spring Meet [in Japanese] 1997, P568
(15) Takechi, S; Dig Abstr., Third Int Symp 193 nm Lithography 1997, P38
(16) Watanabe, T; FED J 1997, V8, P51 HCAPLUS
(17) Wells, G; J Vac Sci Technol B 1992, V10, P3252 HCAPLUS

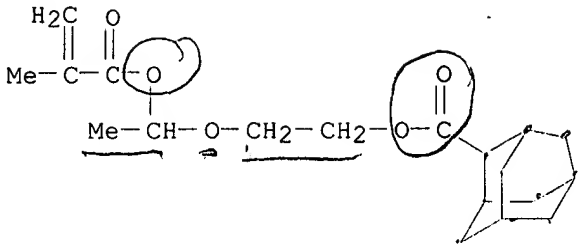
IT **261173-33-5**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(theor. calcn. of photoabsorption of various polymers in extreme UV region in relation to design of lithog. **photoresists**)

RN 261173-33-5 HCAPLUS

CN Tricyclo[3.3.1.13,7]decane-2-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2-methyl-2-propenoic acid and octahydro-4,7-methano-1H-indenyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

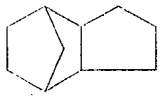
CM 1

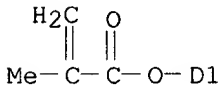
CRN 261173-32-4
CMF C19 H28 O5



CM 2

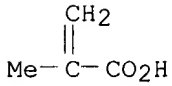
CRN 97321-08-9
CMF C14 H20 O2
CCI IDS
CDES 8:ID





CM 3

CRN 79-41-4
CMF C4 H6 O2



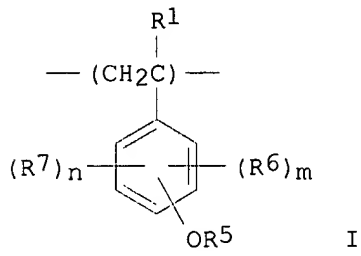
L12 ANSWER 14 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:658546 HCAPLUS
DN 131:293308
TI Positively working photoresist composition containing acid-generating compound
IN Aogo, Toshiaki; Mizutani, Kazuyoshi; Tan, Shiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 53 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08F220-18; C08K005-00; C08L025-18; C08L031-02; C08L101-00; H01L021-027; C08F212-14
CC 74-5 (Radiation Chemistry, **Photochemistry**, and

Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11282163	A2	19991015	JP 1998-79458	19980326

GI



I

AB The material contains a compd. generating acid under exposure to active lights or radioactive rays and a resin with repeating units I and [CH2C(R1)CO2CR2R3R4] [R1 = H, Me; R2, R3 = H, (substituted) alkyl, (substituted) aryl; R4 = cycloalkyl, alkenyl, alkynyl, aralkyl, aryl, where they may be substituted; R5 = H, CR8R9R10, CR11R12OR13; R8-12 = H, (substituted) alkyl, (substituted) cycloalkyl, (substituted) alkenyl, (substituted) alkynyl, (substituted) aryl; R13 = alkyl, cycloalkyl, aryl; R6, R7 = halo, OH, (substituted) alkyl, (substituted) aryl, (substituted) aralkyl, (substituted) alkoxy, (substituted) acyl, (substituted) acyloxy; two of each R2-4, R8-10, and R11-13 may form a ring; m, n = 0-3]. The material shows high sensitivity and improved resolving power and improved pattern profile because of no change of pattern shapes and sensitivity under exposure.

ST pos working photoresist acrylic hydroxystyrene polymer; acid generating agent pos working photoresist; resolving power pattern profile photoresist

IT Positive photoresists
(pos.-working photoresist contg. acrylic hydroxystyrene polymer and acid-generating agent with improved resolving power and pattern profile)

IT 144317-44-2 194999-85-4 197447-16-8 207464-07-1 240424-20-8 240424-21-9
RL: TEM (Technical or engineered material use); USES (Uses)
(acid-generating agent; pos.-working photoresist contg. acrylic hydroxystyrene polymer and acid-generating agent with improved resolving power and pattern profile)

IT 115-18-4
RL: RCT (Reactant)
(monomer from; pos.-working photoresist contg. acrylic hydroxystyrene polymer from)

IT 120880-88-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(monomer; pos.-working photoresist contg. acrylic hydroxystyrene polymer from)

IT 109-92-2DP, Ethyl vinyl ether, reaction product with hydrolyzed acetoxystyrene polymer 246157-32-4DP, hydrolyzed, reaction product with Et vinyl ether
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos.-working photoresist contg. acrylic hydroxystyrene polymer and

acid-generating agent with improved resolving power and pattern profile)

IT 246157-34-6 246157-36-8 **246157-38-0** 246157-40-4
246157-41-5 **246157-43-7** 246157-45-9 246157-46-0
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist** contg. acrylic hydroxystyrene polymer and acid-generating agent with improved resolving power and pattern profile)

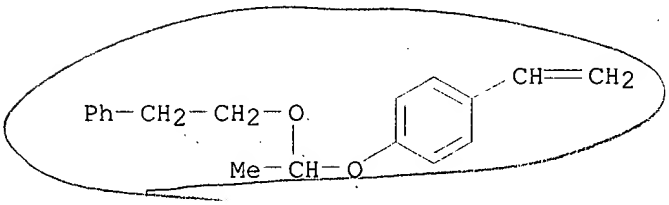
IT **246157-38-0 246157-43-7**
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist** contg. acrylic hydroxystyrene polymer and acid-generating agent with improved resolving power and pattern profile)

RN 246157-38-0 HCAPLUS

CN 2-Propenoic acid, 1-cyclopropyl-1-methylethyl ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

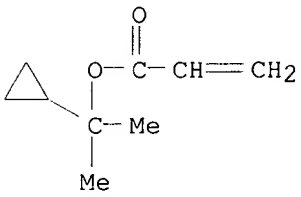
CM 1

CRN 246157-37-9
CMF C18 H20 O2



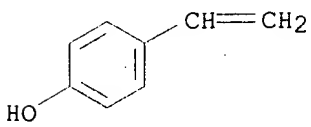
CM 2

CRN 246157-33-5
CMF C9 H14 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O

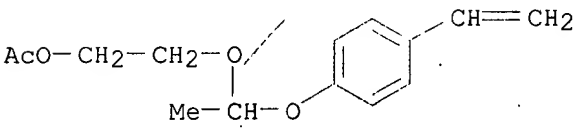


RN 246157-43-7 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethyl-2-propenyl ester, polymer with 4-ethenylphenol and 2-[1-(4-ethenylphenoxy)ethoxy]ethyl acetate (9CI) (CA INDEX NAME)

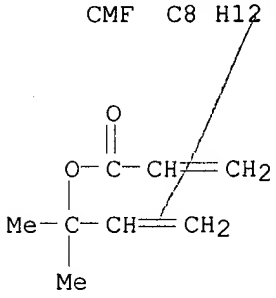
CM 1

CRN 246157-42-6
CMF C14 H18 O4



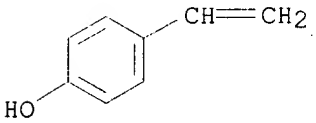
CM 2

CRN 120880-88-8
CMF C8 H12 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O



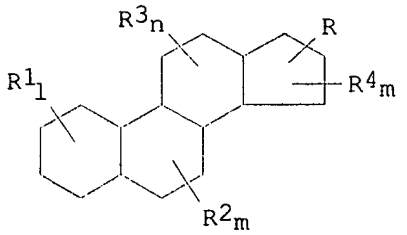
L12 ANSWER 15 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:545224 HCAPLUS
DN 131:206960
TI Positive-type far-UV-sensitive resist composition
IN Sato, Kenichiro; Aogo, Toshiaki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 61 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08L101-02; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11231538	A2	19990827	JP 1998-33206	19980216

GI



I

AB The pos.-type far-UV-sensitive resist compn. has an acid-generating compd. and a resin having mono valent group I (R1-4 = alkyl, cycloalkyl, halo, cyano, etc.; R = carbonyl deriv. connected with alkylene or cycloalkylene) and a group increasing the soly. in an alkali developing soln. by reacting with an acid. The resist compn. provides the excellent characteristics in the development and in the contact with a substrate.

ST far UV pos resist compn cholesterol

IT Photoresists
(pos.-type far-UV-sensitive resist compn.)

IT 241486-18-0P 241486-19-1P 241486-21-5P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(pos.-type far-UV-sensitive resist compn.)

IT 241486-20-4P 241486-22-6P 241486-23-7P 241486-24-8P
241487-26-3P 241487-27-4P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos.-type far-UV-sensitive **resist** compn.)

IT 56-40-6, Glycine, reactions 75-36-5, Acetyl chloride 79-10-7, 2-Propenoic acid, reactions 83-44-3, Deoxycholic acid 109-78-4, 2-Cyanoethanol 474-25-9, Chenodeoxycholic acid 599-04-2, Pantoyl lactone 26256-87-1, Triethyleneglycol methylvinylether 241486-10-2
RL: RCT (Reactant)
(pos.-type far-UV-sensitive resist compn.)

IT 241486-11-3 241486-13-5 241486-15-7 **241486-17-9**
RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses)
(pos.-type far-UV-sensitive **resist** compn.)

IT **241487-26-3P 241487-27-4P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos.-type far-UV-sensitive **resist** compn.)

RN 241487-26-3 HCAPLUS

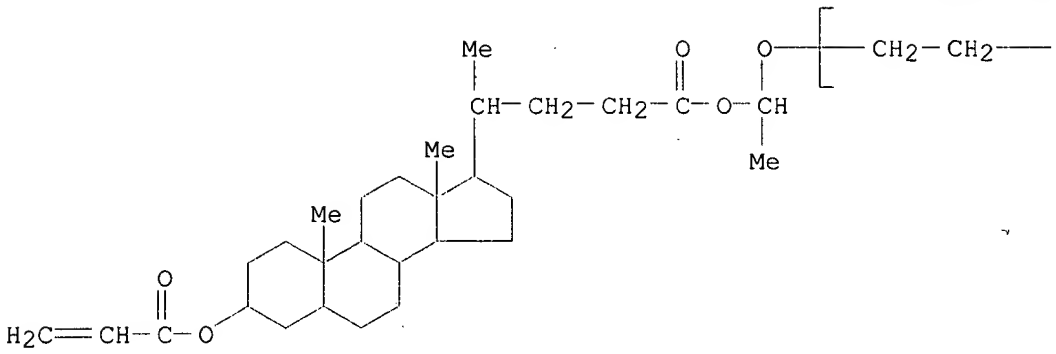
CN Cholan-24-oic acid, 7,12-dihydroxy-3-[(1-oxo-2-propenyl)oxy]-, (3.alpha.,5.beta.,7.alpha.,12.alpha.)-, polymer with .alpha.-methyl-.omega.-[1-[[(3.alpha.)-24-oxo-3-[(1-oxo-2-propenyl)oxy]cholan-24-yl]oxy]ethyl]poly(oxy-1,2-ethanediyl) and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

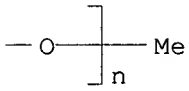
CRN 244072-60-4

CMF (C2 H4 O)n C30 H48 O5
CCI PMS
CDES 4:3A.CHOL

PAGE 1-A



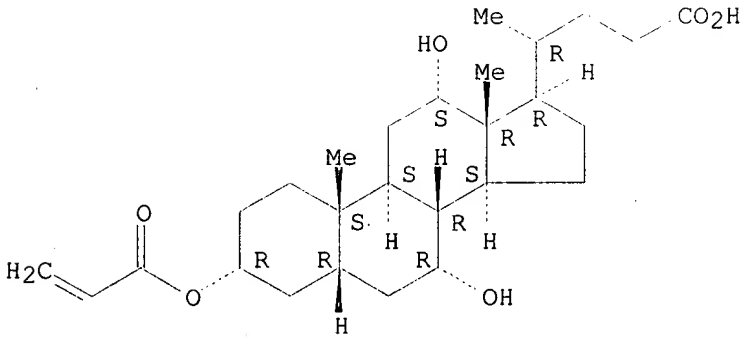
PAGE 1-B



CM 2

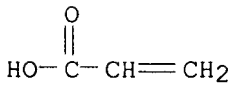
CRN 241486-19-1
CMF C27 H42 O6

Absolute stereochemistry.



CM 3

CRN 79-10-7
CMF C3 H4 O2

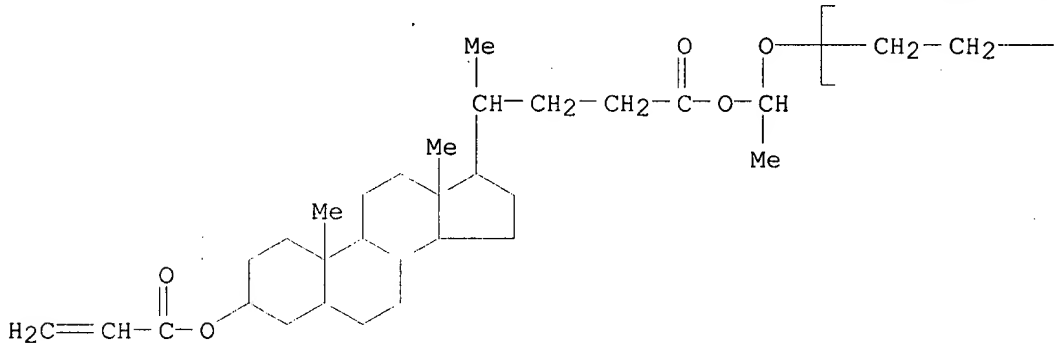


RN 241487-27-4 HCAPLUS
CN Cholan-24-oic acid, 3-[(1-oxo-2-propenyl)oxy]-, (3.alpha.)-, polymer with .alpha.-methyl-.omega.-[1-[[(3.alpha.)-24-oxo-3-[(1-oxo-2-propenyl)oxy]cholan-24-yl]oxy]ethyl]poly(oxy-1,2-ethanediyl) and 2-propenoic acid (9CI) (CA INDEX NAME)

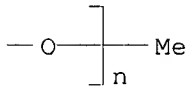
CM 1

CRN 244072-60-4
CMF (C2 H4 O)n C30 H48 O5
CCI PMS
CDES 4:3A.CHOL

PAGE 1-A



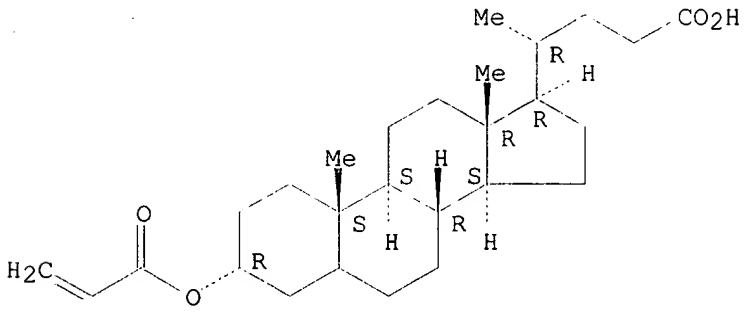
PAGE 1-B



CM 2

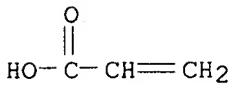
CRN 241486-24-8
CMF C27 H42 O4

Absolute stereochemistry.



CM 3

CRN 79-10-7
CMF C3 H4 O2

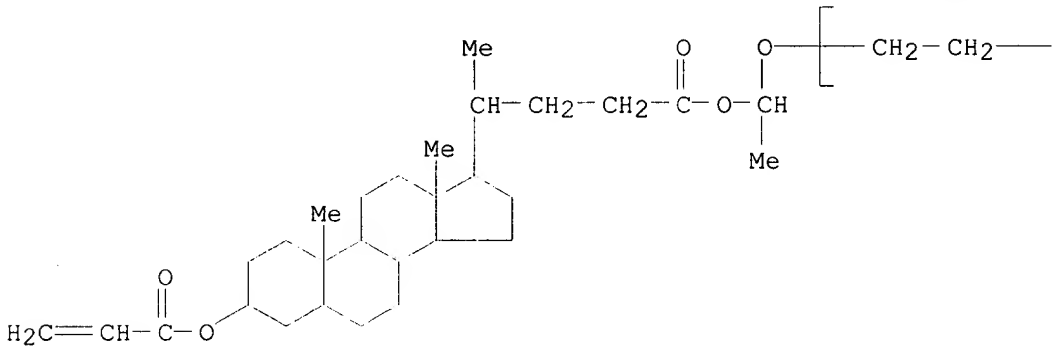


IT **241486-17-9**
RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses)
(pos.-type far-UV-sensitive **resist** compn.)
RN 241486-17-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-[1-[[(3.alpha.)-24-oxo-3-[(1-oxo-2-propenyl)oxy]cholan-24-yl]oxy]ethyl]-, homopolymer (9CI) (CA INDEX NAME)

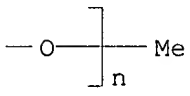
CM 1

CRN 241486-16-8
CMF (C2 H4 O)n C30 H48 O5
CCI PMS
CDES *

PAGE 1-A



PAGE 1-B

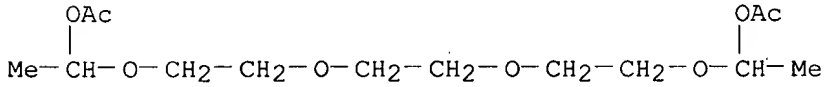


L12 ANSWER 16 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:427020 HCAPLUS
DN 131:122972
TI Radiation-sensitive composition useful as positive-working resist
IN Fujita, jun; Kameyama, Yasuhiro; Tarutani, Shinji
PA Mitsubishi Chemical Industries Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 37
FAN.CNT 1

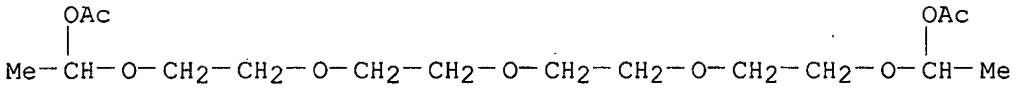
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11184089	A2	19990709	JP 1997-356817	19971225

AB The title compn. contains (1) an alkali-sol. resin which may have an acid-decomposable protective group on at least part of its alkali soly.-improving groups and (2) a compd. having .gtoreq.2 acyloxyalkoxy groups. The compn. shows high photosensitivity and provides a high resoln. pattern with good profile.
ST pos resist alkali soluble resin; acyloxy alkoxy crosslinking agent resist
IT Crosslinking agents
(pos. resist compn. contg. alkali-sol. resin and acyloxyalkoxy compd. as crosslinking agent)
IT Resists
(pos.-working; pos. resist compn. contg. alkali-sol. resin and acyloxyalkoxy compd. as crosslinking agent)
IT 211255-76-4, Cyclohexylsulfonyl p-methoxyphenylsulfonyl diazomethane
RL: TEM (Technical or engineered material use); USES (Uses)
(acid generator; pos. resist compn. contg. alkali-sol. resin and acyloxyalkoxy compd. as crosslinking agent)
IT **232945-92-5P 232945-93-6P 232945-94-7P**
232945-95-8P 232945-96-9P 232945-97-0P
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **resist** compn. contg. alkali-sol. resin and acyloxyalkoxy compd. as crosslinking agent)
IT 109-92-2DP, Ethyl vinyl ether, ethers with polyvinylphenol 59269-51-1DP, Poly(vinylphenol), ethers with Et vinyl ether
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. resist compn. contg. alkali-sol. resin and acyloxyalkoxy compd. as crosslinking agent)
IT 64-19-7, Acetic acid, reactions 75-98-9, Pivalic acid 80-05-7, Bisphenol A, reactions 110-75-8, 2-Chloroethyl vinyl ether 765-12-8, 3,6,9,12-Tetraoxatetradeca-1,13-diene 57758-90-4, Trimethylolpropane trivinyl ether 83416-06-2, Tetraethylene glycol divinyl ether 130668-21-2, Cyclohexanedimethanol divinyl ether
RL: RCT (Reactant)
(prepn. of acyloxyalkoxy compd. crosslinking agent)
IT **232945-92-5P 232945-93-6P 232945-94-7P**
232945-95-8P 232945-96-9P 232945-97-0P
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **resist** compn. contg. alkali-sol. resin and acyloxyalkoxy compd. as crosslinking agent)
RN 232945-92-5 HCAPLUS
CN 3,6,9,12-Tetraoxatetradecane-2,13-diol, diacetate (9CI) (CA INDEX NAME)

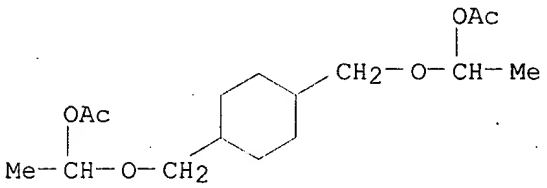


RN 232945-93-6 HCAPLUS

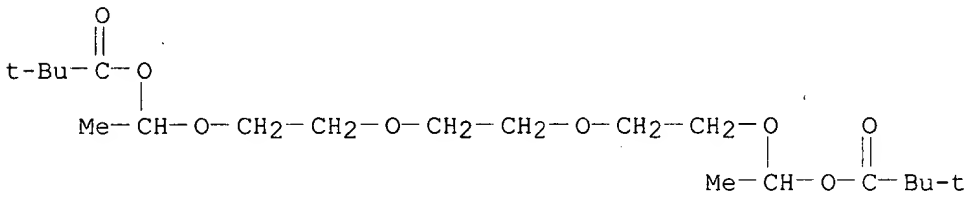
CN 3,6,9,12,15-Pentaoxaheptadecane-2,16-diol, diacetate (9CI) (CA INDEX NAME)



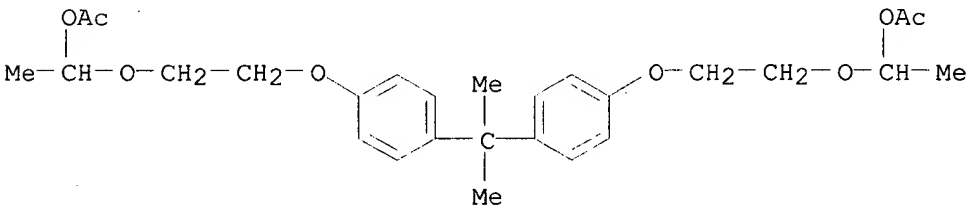
RN 232945-94-7 HCAPLUS
CN Ethanol, 1,1'-[1,4-cyclohexanediylbis(methyleneoxy)]bis-, diacetate (9CI) (CA INDEX NAME)



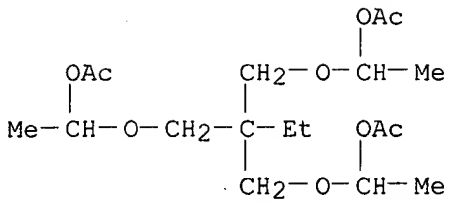
RN 232945-95-8 HCAPLUS
CN Propanoic acid, 2,2-dimethyl-, 1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl ester (9CI) (CA INDEX NAME)



RN 232945-96-9 HCAPLUS
CN Ethanol, 1,1'-[(1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyloxy)]bis-, diacetate (9CI) (CA INDEX NAME)



RN 232945-97-0 HCAPLUS
CN Ethanol, 1,1'-[[2-[[1-(acetyloxy)ethoxy]methyl]-2-ethyl-1,3-propanediyl]bis(oxy)]bis-, diacetate (9CI) (CA INDEX NAME)



L12 ANSWER 17 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:260861 HCAPLUS
DN 130:345050
TI Positively-working photoresist composition for far-ultraviolet ray exposure
IN Sato, Kenichiro; Aogo, Toshiaki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11109630	A2	19990423	JP 1997-271404	19971003

AB In the photoresist compn. contg. an acid generator and a polymer whose soly. in an alkali increases in decompg. by an acid, the polymer has a repeating unit contg. CO2CR1HOR2 (R1 = H, alkyl; R2 = substituted alkyl giving inorganicity .gtoreq.100 in org. conceptual diagram) bonded to C-C double bonds directly or via a divalent org. group. The compn. shows low absorption for ArF excimer laser light, good adhesion strength to substrates, and good pattern profiles.
ST pos photoresist acetal acid decomposable polymer; far UV resist acid decomposable polymer
IT Positive photoresists
(pos. photoresist contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)
IT **224299-24-5P 224299-26-7P 224299-28-9P**
224299-30-3P 224299-32-5P 224299-34-7P
224299-37-0P 224299-40-5P 224299-42-7P 224299-45-0P
224299-48-3P 224299-51-8P 224299-54-1P 224299-57-4P 224299-59-6P
224299-61-0P 224299-63-2P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **photoresist** contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)
IT **224299-08-5P** 224299-09-6P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(pos. **photoresist** contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)
IT 154970-45-3P 210641-03-5P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(pos. photoresist contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)

IT 77-73-6 79-41-4, reactions 764-48-7 1663-39-4, tert-Butyl acrylate 224054-07-3
RL: RCT (Reactant)
(pos. photoresist contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)

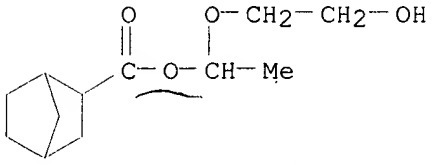
IT **224299-24-5P 224299-26-7P 224299-28-9P 224299-30-3P 224299-32-5P 224299-34-7P 224299-37-0P 224299-40-5P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **photoresist** contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)

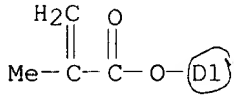
RN 224299-24-5 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-(2-hydroxyethoxy)ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

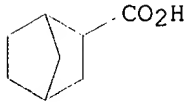
CRN 224299-08-5
CMF C16 H24 O6
CCI IDS
CDES *

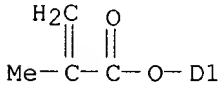




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *

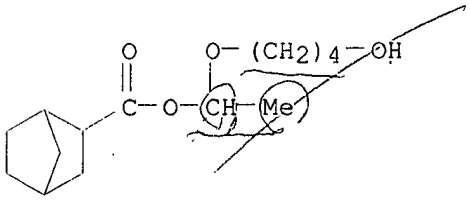


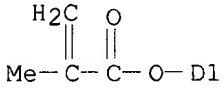


RN 224299-26-7 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-(4-hydroxybutoxy)ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

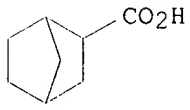
CRN 224299-25-6
CMF C18 H28 O6
CCI IDS
CDES *

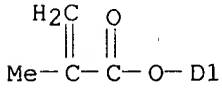




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *



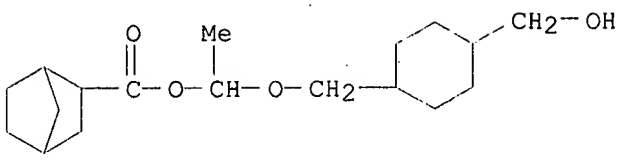


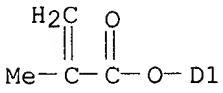
RN 224299-28-9 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[[4-(hydroxymethyl)cyclohexyl]methoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 224299-27-8
CMF C22 H34 O6

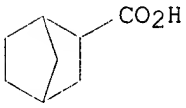
CCI IDS
CDES *

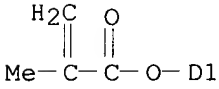




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *

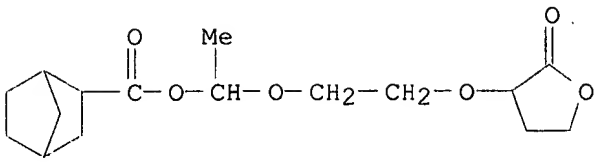


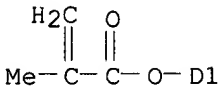


RN 224299-30-3 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[2-[(tetrahydro-2-oxo-3-furanyl)oxy]ethoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

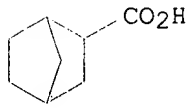
CRN 224299-29-0
CMF C20 H28 O8
CCI IDS
CDES *

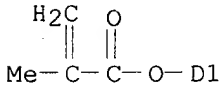




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *

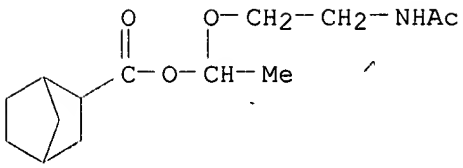


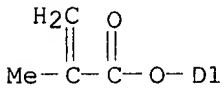


RN 224299-32-5 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[2-(acetylamino)ethoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

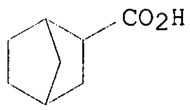
CRN 224299-31-4
CMF C18 H27 N O6
CCI IDS
CDES *

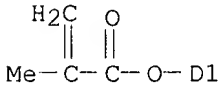




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *

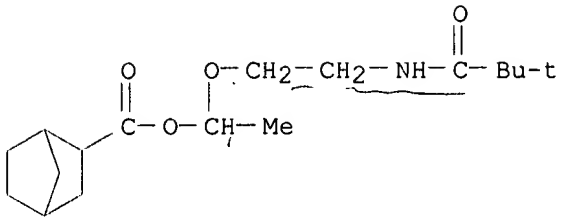


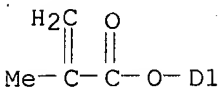


RN 224299-34-7 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[2-[(2,2-dimethyl-1-oxopropyl)amino]ethoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

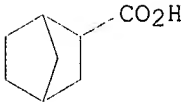
CRN 224299-33-6
CMF C21 H33 N O6
CCI IDS
CDES *

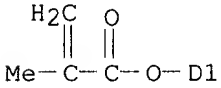




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *

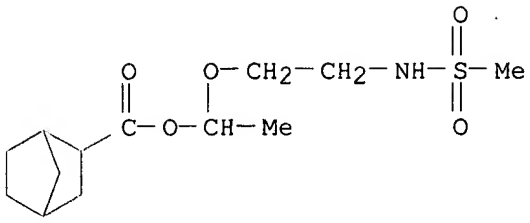


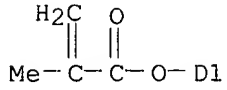


RN 224299-37-0 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[2-[(methylsulfonyl)amino]ethoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

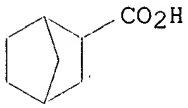
CRN 224299-36-9
CMF C17 H27 N O7 S
CCI IDS
CDES *

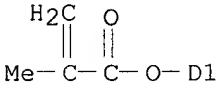




CM 2

CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *

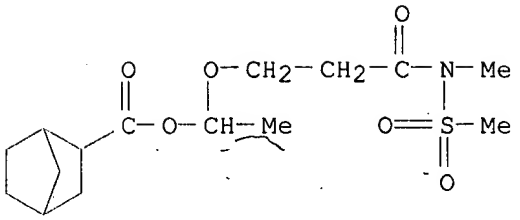


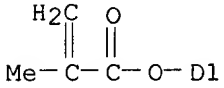


RN 224299-40-5 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[3-[methyl(methylsulfonyl)amino]-3-oxopropoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

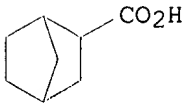
CRN 224299-39-2
CMF C19 H29 N O8 S
CCI IDS
CDES *

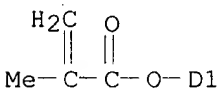




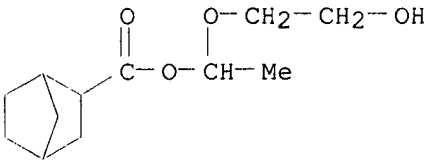
CM 2

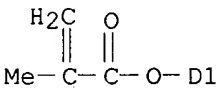
CRN 210641-03-5
CMF C12 H16 O4
CCI IDS
CDES *





IT **224299-08-5P**
RL: PNU (Preparation, unclassified); PREP (Preparation)
(pos. **photoresist** contg. acid-decomposable acetal group-contg. polymer for far-UV ray exposure)
RN 224299-08-5 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-(2-hydroxyethoxy)ethyl ester (9CI) (CA INDEX NAME)





L12 ANSWER 18 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:246939 HCAPLUS
DN 130:274098
TI Photoresist composition
IN Watanabe, Satoshi; Watanabe, Osamu; Furihata, Tomoyoshi; Takeda, Yoshifumi; Nagura, Shigehiro; Ishihara, Toshinobu; Yamaoka, Tsuguo
PA Shin-Etsu Chemical Co., Ltd., Japan
SO Eur. Pat. Appl., 82 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G03F007-039
ICS C08F008-00
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

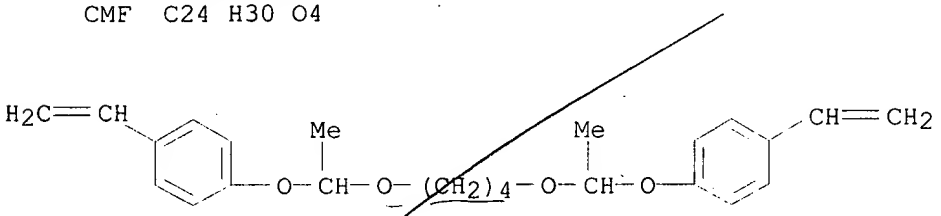
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 908783	A1	19990414	EP 1998-308175	19981008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11190904	A2	19990713	JP 1998-299177	19981006
	US 6136502	A	20001024	US 1998-167567	19981007
PRAI	JP 1997-291681	A	19971008		

AB A photoresist compn. comprises (A) an org. solvent, (B) at least two polymers with wt.-av. mol. wts. of 1000-500,000, which have at least one type of acid labile groups and are crosslinked within a mol. and/or between mols. with crosslinking groups having C-O-C linkages, and (C) a photoacid generator. The photoresist compn. has excellent sensitivity and resoln. and provides resist patterns of outstanding thermal stability, reproducibility, and plasma etching resistance. Patterns obtained with the photoresist compn. are less prone to overhanging and have excellent dimensional controllability. The photoresist compn. is suitable as a micropatterning material for VLSI fabrication.
ST photoresist compn polymer acid labile group
IT Photoresists
(contg. crosslinked polymers having acid labile groups and photoacid generators)
IT 13094-35-4 14159-45-6 138529-81-4 141573-11-7 157089-24-2
161453-44-7 180801-55-2 186769-06-2 186769-08-4 195723-93-4
216870-63-2 221901-46-8
RL: TEM (Technical or engineered material use); USES (Uses)
(photoresist compns. contg. crosslinked polymers having acid labile groups and)
IT 100-37-8, N,N-Diethylethanolamine 102-71-6, Triethanolamine, uses
102-82-9, Tributylamine 110-18-9 126-00-1 127-19-5,
N,N-Dimethylacetamide 139-87-7, N-Ethyldiethanolamine 142-08-5,
2(1H)-Pyridinone 872-50-4, N-Methylpyrrolidone, uses 1734-16-3
6674-22-2 18066-45-0 68510-93-0 72762-00-6, 2-Hydroxypyridine
117458-06-7 158593-28-3 211919-60-7 220208-51-5, Piperidineethanol
221901-64-0
RL: TEM (Technical or engineered material use); USES (Uses)
(photoresist compns. contg. crosslinked polymers having acid labile groups, photoacid generators and)
IT 129674-22-2 177034-75-2 **218796-79-3 221900-20-5**
221900-25-0 221900-30-7 221900-34-1
221900-38-5 221900-44-3 221900-50-1
221900-55-6 221900-62-5 221900-71-6

221900-76-1 221900-83-0
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoresist** compns. contg. photoacid generators and)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Ocg Microelectronic Materials Inc; EP 0718316 A 1996 HCAPLUS
(2) Ocg Microelectronic Materials Inc; EP 0738744 A 1996 HCAPLUS
(3) Shin Etsu Chem Co Ltd; JP 08337616 A 1996 HCAPLUS
(4) Shinetsu Chem Ind Co Ltd; JP 09160246 A 1997 HCAPLUS
(5) Shinetsu Chem Ind Co Ltd; JP 09211866 A 1997 HCAPLUS
(6) Tokyo Ohka Kogyo Co Ltd; EP 0679951 A 1995 HCAPLUS
(7) Wako Pure Chemical Industries Ltd; EP 0780732 A 1997 HCAPLUS
IT **218796-79-3 221900-20-5 221900-25-0**
221900-30-7 221900-34-1 221900-38-5
221900-44-3 221900-55-6 221900-62-5
221900-71-6 221900-76-1 221900-83-0
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoresist** compns. contg. photoacid generators and)
RN 218796-79-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

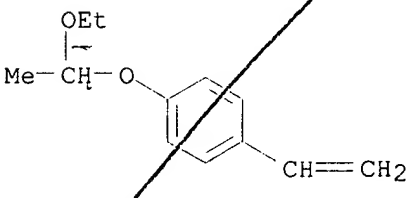
CM 1

CRN 215319-92-9
CMF C24 H30 O4



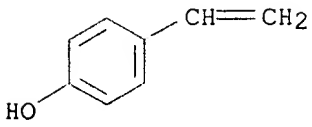
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O

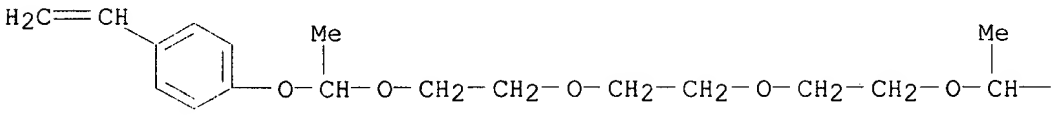


RN 221900-20-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 2,13-bis(4-ethenylphenoxy)-3,6,9,12-tetraoxatetradecane and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

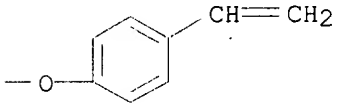
CM 1

CRN 221900-19-2
CMF C26 H34 O6

PAGE 1-A

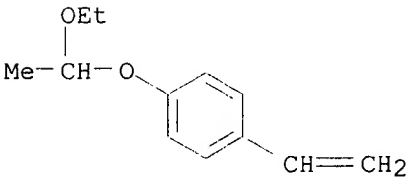


PAGE 1-B



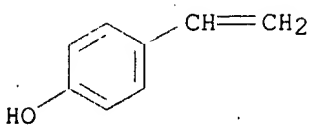
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O

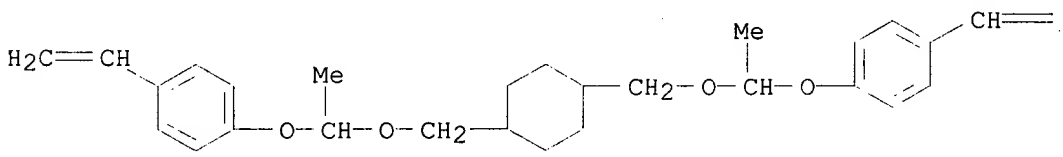


RN 221900-25-0 HCAPLUS
CN Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

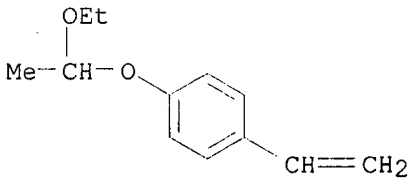
PAGE 1-A



PAGE 1-B

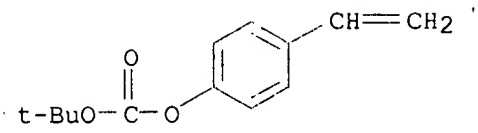
CM 2

CRN 157057-20-0
CMF C12 H16 O2



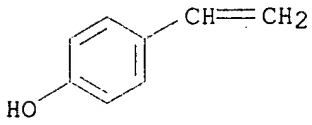
CM 3

CRN 87188-51-0
CMF C13 H16 O3



CM 4

CRN 2628-17-3
CMF C8 H8 O

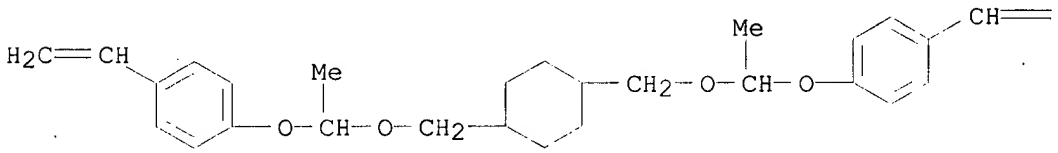


RN 221900-30-7 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxy ethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

PAGE 1-A

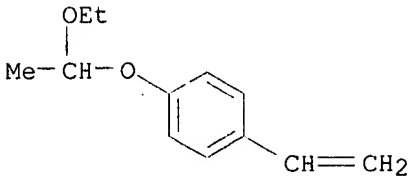


PAGE 1-B

$=CH_2$

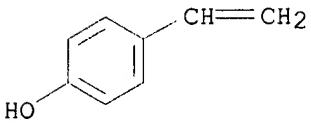
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O

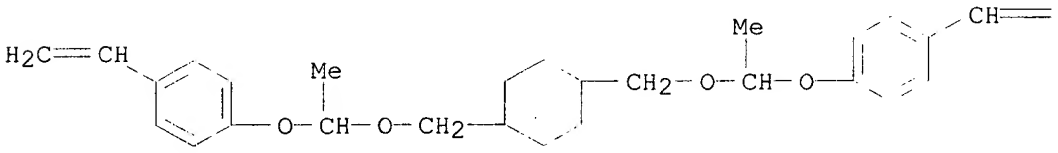


RN 221900-34-1 HCAPLUS
CN Acetic acid, (4-ethenylphenoxy)-, 1,1-dimethylethyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 4-ethenylphenol and 2-(4-ethenylphenoxy)tetrahydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

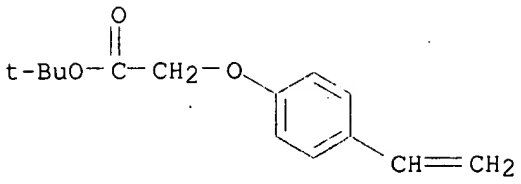
PAGE 1-A



PAGE 1-B

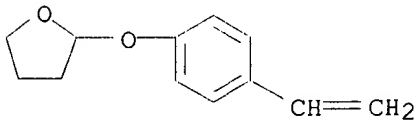
CM 2

CRN 142952-61-2
CMF C14 H18 O3



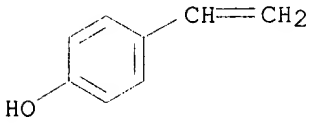
CM 3

CRN 123960-82-7
CMF C12 H14 O2



CM 4

CRN 2628-17-3
CMF C8 H8 O

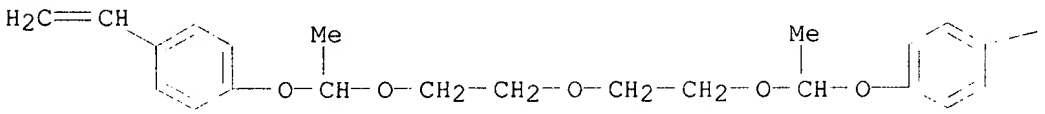


RN 221900-38-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-(1-ethoxypropoxy)benzene and 1,1'-[oxybis(2,1-ethanediyloxyethylideneoxy)]bis[4-ethenylbenzene] (9CI) (CA INDEX NAME)

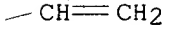
CM 1

CRN 215319-84-9
CMF C24 H30 O5

PAGE 1-A

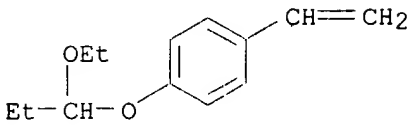


PAGE 1-B



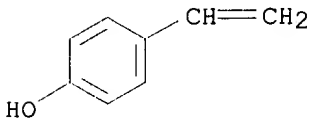
CM 2

CRN 192314-49-1
CMF C13 H18 O2



CM 3

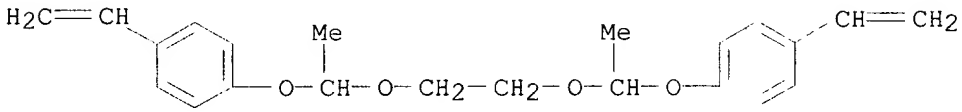
CRN 2628-17-3
CMF C8 H8 O



RN 221900-44-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,2-ethanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and (4-ethenylphenoxy)trimethylsilane (9CI) (CA INDEX NAME)

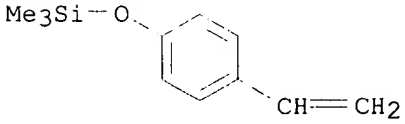
CM 1

CRN 215319-88-3
CMF C22 H26 O4



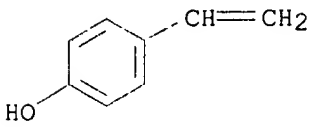
CM 2

CRN 58555-66-1
CMF C11 H16 O Si



CM 3

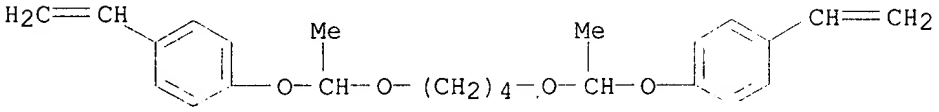
CRN 2628-17-3
CMF C8 H8 O



RN 221900-55-6 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxypropoxy)benzene (9CI) (CA INDEX NAME)

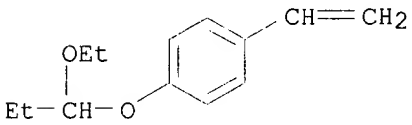
CM 1

CRN 215319-92-9
CMF C24 H30 O4



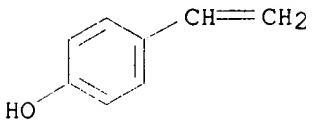
CM 2

CRN 192314-49-1
CMF C13 H18 O2



CM 3

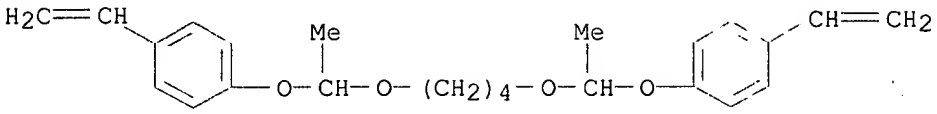
CRN 2628-17-3
CMF C8 H8 O



RN 221900-62-5 HCAPLUS
CN Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1-ethenyl-4-(1-ethoxypropoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

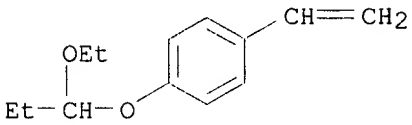
CM 1

CRN 215319-92-9
CMF C24 H30 O4



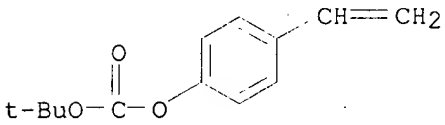
CM 2

CRN 192314-49-1
CMF C13 H18 O2



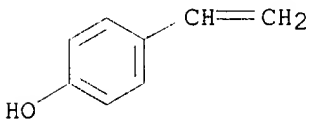
CM 3

CRN 87188-51-0
CMF C13 H16 O3



CM 4

CRN 2628-17-3
CMF C8 H8 O

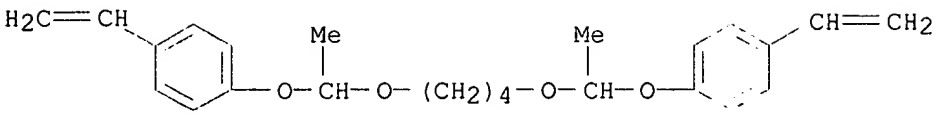


RN 221900-71-6 HCAPLUS
CN Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

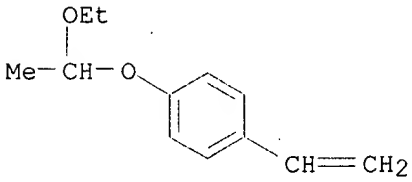
CRN 215319-92-9

CMF C24 H30 O4



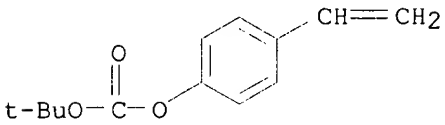
CM 2

CRN 157057-20-0
CMF C12 H16 O2



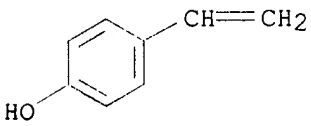
CM 3

CRN 87188-51-0
CMF C13 H16 O3



CM 4

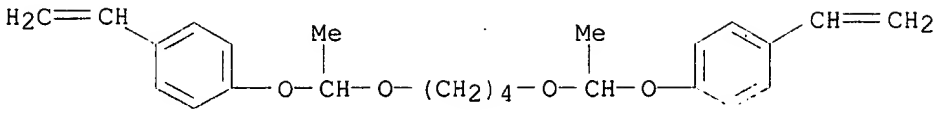
CRN 2628-17-3
CMF C8 H8 O



RN 221900-76-1 HCAPLUS
CN Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 4-ethenylphenol (9CI) (CA INDEX NAME)

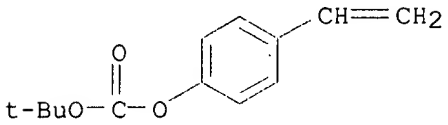
CM 1

CRN 215319-92-9
CMF C24 H30 O4



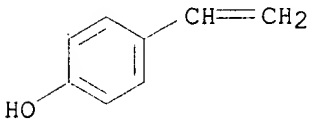
CM 2

CRN 87188-51-0
CMF C13 H16 O3



CM 3

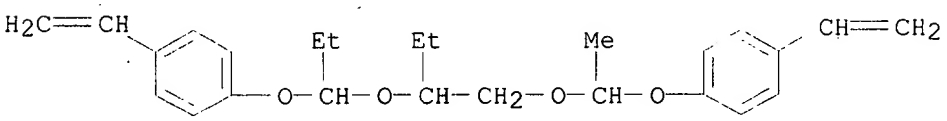
CRN 2628-17-3
CMF C8 H8 O



RN 221900-83-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-[1-[[1-(4-ethenylphenoxy)ethoxy]methyl]propoxy]propoxy]benzene and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

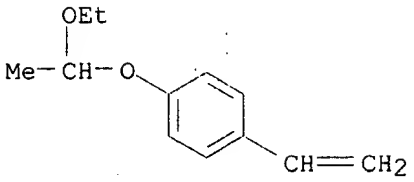
CM 1

CRN 221900-82-9
CMF C25 H32 O4



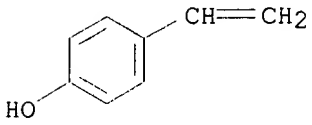
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O



L12 ANSWER 19 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:209953 HCAPLUS
DN 130:274112
TI Chemically amplified positively working photoresist composition using polymer having hindered piperidine structure
IN Kamitani, Yasunori; Takemoto, Kazuki; Fujishima, Hiroaki
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11084660	A2	19990326	JP 1997-248591	19970912

AB The compn. comprises (A) a resin contg. a polymer unit with a hindered piperidine skeleton, whose alkali insoly. or low soly. is changed to high alkali soly. by an acid, and (B) an acid-generating agent. The compn. provides improved profile images with high resolving power without redn. of sensitivity and is suitable for semiconductor device fabrication.
ST chem amplified pos working photoresist; hindered piperidine structure polymer photoresist; acid generating agent chem amplified photoresist; semiconductor device fabrication pos working photoresist
IT Positive photoresists
(chem. amplified pos. working photoresist compn. using polymer having hindered piperidine structure)
IT Semiconductor device fabrication
(chem. amplified pos. working photoresist compn. using polymer having hindered piperidine structure for)
IT **222173-26-4P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplified pos. working **photoresist** compn. using polymer having hindered piperidine structure)

IT **181894-81-5P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(monomer; for chem. amplified pos. working **photoresist** compn. using polymer having hindered piperidine structure)

IT 764-48-7, Ethylene glycol monovinyl ether 2094-72-6, 1-Adamantanecarbonyl chloride
RL: RCT (Reactant)
(raw material for monomer; for chem. amplified pos. working photoresist compn. using polymer having hindered piperidine structure)

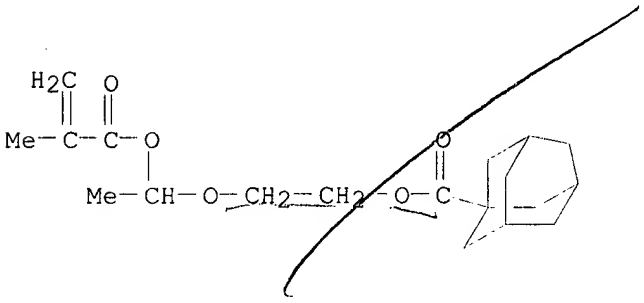
IT **222173-26-4P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplified pos. working **photoresist** compn. using polymer having hindered piperidine structure)

RN 222173-26-4 HCAPLUS

CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene, 2,5-furandione and 1,2,2,6,6-pentamethyl-4-piperidinyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

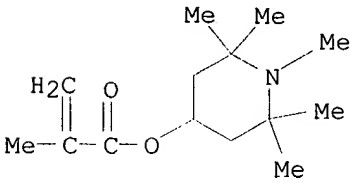
CM 1

CRN 181894-81-5
CMF C19 H28 O5



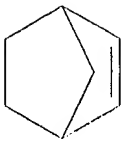
CM 2

CRN 68548-08-3
CMF C14 H25 N O2



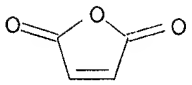
CM 3

CRN 498-66-8
CMF C7 H10

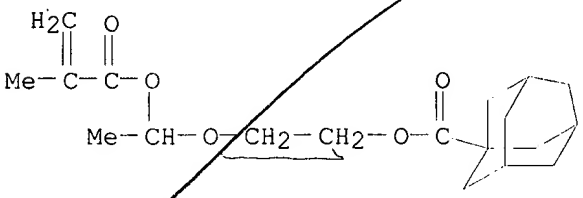


CM 4

CRN 108-31-6
CMF C4 H2 O3



IT **181894-81-5P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(monomer; for chem. amplified pos. working **photoresist** compn.
using polymer having hindered piperidine structure)
RN 181894-81-5 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



L12 ANSWER 20 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:189048 HCAPLUS
DN 130:215862
TI Pattern formation method using chemical-enhanced positive-working photoresist
IN Hatakeyama, Jun; Takemura, Katsunari; Nakura, Shigehiro
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-38
ICS G03F007-004; G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11072928	A2	19990316	JP 1998-186952	19980617
PRAI JP 1997-185813		19970626		

AB In pattern formation comprising (1) coating a pos.-working photoresist, (2) pre-baking if necessary and exposing the photoresists, (3) post-exposure baking, and developing with an aq. alkali developer, the post-exposure baking is performed at 70-140.degree. for 30-200 s on a hot plate at an environment of temp. 15-30.degree. and relative humidity .gtoreq.30%. The resist compn. contains (A) an org. solvent, (B) a base resin with .gtoreq.10 mol% H atom of phenolic OH replaced with -C(R1)(R2)OR3 (R1, R2 = H, C1-18 alkyl; R3 = C1-18 (halo-contg.) hydrocarbon; R1 with R2, R1 with R3, or R2 with R3 may form a ring), (C) an acid-generator, and (D) a basic compd. The invention can promote acetal releasing reaction for obtaining stable pattern.

ST pattern formation post exposure baking photoresist

IT Photoresists
(contg. specified resin for pattern formation contg. post-exposure baking at certain condition)

IT 14159-45-6 157089-26-4 161453-44-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(acid-generator contained in photoresist compn. for pattern formation contg. post-exposure baking at certain condition)

IT 102-71-6, Triethanol amine, uses 102-82-9, Tributyl amine 70384-51-9, Tris{2-(2-methoxy ethoxy)ethyl}amine 211919-60-7 218770-96-8
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(basic compd. contained in photoresist compn. for pattern formation contg. post-exposure baking at certain condition)

IT 123589-22-0 125325-82-8 129674-22-2 158593-28-3 177034-75-2
218770-98-0 220059-77-8
RL: TEM (Technical or engineered material use); USES (Uses)
(contained in **photoresist** compn. for pattern formation contg. post-exposure baking at certain condition)

IT 97-64-3, Ethyl lactate 3852-09-3, Methyl 3-methoxypropionate 84540-57-8, Propylene glycol monomethyl ether acetate
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent contained in photoresist compn. for pattern formation contg. post-exposure baking at certain condition)

IT 117458-06-7 166597-59-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(soly.-suppressing agent contained in photoresist compn. for pattern formation contg. post-exposure baking at certain condition)

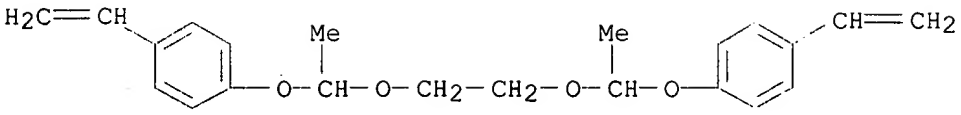
IT **218770-98-0**
RL: TEM (Technical or engineered material use); USES (Uses)
(contained in **photoresist** compn. for pattern formation contg. post-exposure baking at certain condition)

RN 218770-98-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,2-ethanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

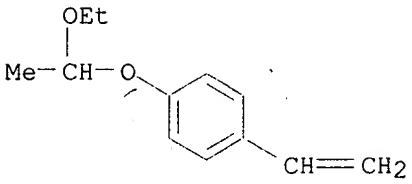
CM 1

CRN 215319-88-3
CMF C22 H26 O4



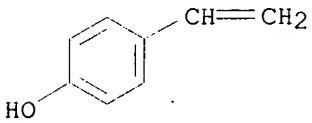
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O



L12 ANSWER 21 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:137126 HCAPLUS
DN 130:215884
TI Chemically amplified positive-working photoresist composition containing hindered piperidine as quencher
IN Kamitani, Yasunori; Takemoto, Kazuki
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 37
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11052575	A2	19990226	JP 1997-208864	19970804

AB The title photoresist compn. contains a resin insol. or slightly sol. in alkali that becomes alkali-sol. by the action of acid, an acid generator, and a hindered amine compd. having a hindered piperidine skeleton. The

compn. shows high photosensitivity, developability, and coatability and provides high resoln. patterns with good profile.

ST photoresist polyvinylphenol; hindered piperidine quencher chem amplification photoresist; acid generator chem amplification photoresist

IT Photoresists
(chem. amplification-type photoresist contg. resin, acid generator, and hindered piperidine compd.)

IT 63843-89-0, Tinuvin 144 68548-08-3, ADK Stab LA 82 73754-27-5, Sanol LS 2626 107119-91-5, ADK Stab LA 62 115055-30-6, ADK Stab LA 63 147783-69-5, Sanduvor PR 31
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(chem. amplification-type photoresist contg. resin, acid generator, and hindered piperidine compd.)

IT 109-92-2DP, Ethyl vinyl ether, ethers with poly(vinylphenol) 24979-70-2DP, VP 15000, ethers with Et vinyl ether **220956-62-7P**, Norbornene-succinic anhydride-1-adamantylcarbonyloxyethyoxy-1-methylethyl methacrylate copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplification-type **photoresist** contg. resin, acid generator, and hindered piperidine compd.)

IT 29651-47-6, .alpha.-Methylolbenzoin tosylate 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplification-type photoresist contg. resin, acid generator, and hindered piperidine compd.)

IT 181894-81-5P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(prepn. and polymn. of)

IT 79-41-4, reactions 764-48-7 2094-72-6, 1-Adamantanecarbonyl chloride
RL: RCT (Reactant)
(prepn. of methacryloyloxyethoxyethyl adamantanecarbonate)

IT 41556-26-7, Sanol LS 765 91788-83-9, ADK Stab LA 52
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(quencher; chem. amplification-type photoresist contg. resin, acid generator, and hindered piperidine compd.)

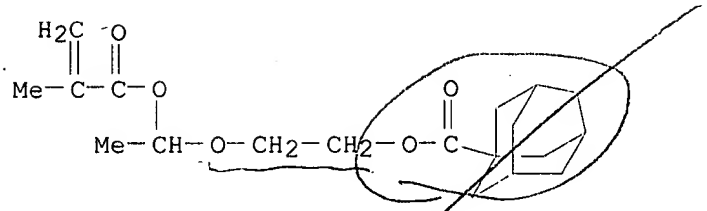
IT **220956-62-7P**, Norbornene-succinic anhydride-1-adamantylcarbonyloxyethyoxy-1-methylethyl methacrylate copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplification-type **photoresist** contg. resin, acid generator, and hindered piperidine compd.)

RN 220956-62-7 HCAPLUS

CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and dihydro-2,5-furandione (9CI) (CA INDEX NAME)

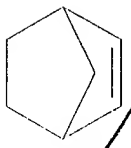
CM 1

CRN 181894-81-5
CMF C19 H28 O5



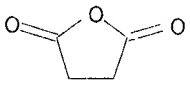
CM 2

CRN 498-66-8
CMF C7 H10



CM 3

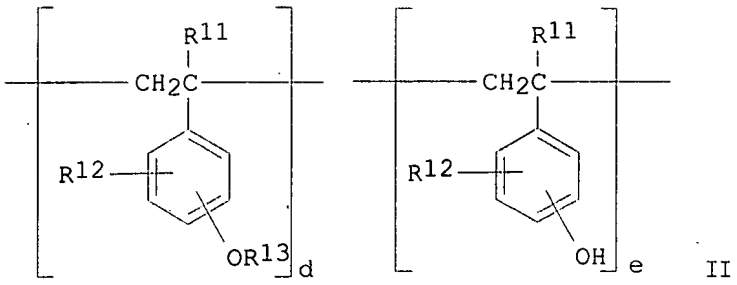
CRN 108-30-5
CMF C4 H4 O3



L12 ANSWER 22 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:56807 HCAPLUS
DN 130:146230
TI Chemically amplified positive-working photoresist with good resolution in dry condition
IN Hatakeyama, Jun; Takemura, Katsuya; Nagura, Shigehiro
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; G03F007-023; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11015163	A2	19990122	JP 1997-185812	19970626

GI



AB The photoresist contains al alc. compd. with b.p. (at 760 mmHg) .gtoreq.180.degree.. The other constituents for above may be an org. solvent, a base resin (Mw 5000-100,000) where .gtoreq.10 mol% H of phenolic OH are replaced with an acid-unstable group CR1R2OR3 (I; R1, R2 = H, C1-10 alkyl; R3 = C1-10 hydrocarbyl), and an acid generator. The base resin may be crosslinked via CR4R5(OR6)bOA[O(R6O)bCR4R5]a' and/or CR4R5OR6BA[BR6OCR4R5]a' [R4, R5 = H, C1-8 alkyl; R6 = C1-10 alkylene; b = 0-10; A = a-valent C1-50 satd. aliph., arom., alicyclic, or heterocyclic group; B = CO2, NHCO2, NHCONH; a = 2-8; a' = 1-7]. A macromol. of Mw 3000-300,000 comprising II [R11 = H, Me; R12 = C1-8 alkyl; R13 = an acid-unstable group other than I; d .gtoreq.0; e > 0; d + e = 1; 0.5 .ltoreq. e/(d + e) .ltoreq. 1.0], or a dissoln. inhibitor having an acid-unstable group, may be incorporated in above photoresist.

ST photoresist chem amplified alc boiling point; pattern capability dry condition pos photoresist; polyalkylene glycol chem amplified photoresist; alkali sol polyhydroxystyrene photoresist pos

IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplified pos. photoresist contg. high-b.p. alcs. and showing good patterning ability in dry condition)

IT Positive photoresists
(chem.-amplified; chem. amplified pos. photoresist contg. high-b.p. alcs. and showing good patterning ability in dry condition)

IT 123589-22-0 125325-82-8 129674-22-2 158593-28-3 177034-75-2 **218770-98-0** 220059-77-8
RL: TEM (Technical or engineered material use); USES (Uses)
(alkali-sol. resin; chem. amplified pos. **photoresist** contg. high-b.p. alcs. and showing good patterning ability in dry condition)

IT 56-81-5, 1,2,3-Propanetriol, uses 107-21-1, 1,2-Ethanediol, uses 112-30-1, Decyl alcohol 25322-68-3 25322-69-4, Polypropylene glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplified pos. photoresist contg. high-b.p. alcs. and showing good patterning ability in dry condition)

IT 117458-06-7 166597-59-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(dissoln. inhibitor; chem. amplified pos. photoresist contg. high-b.p. alcs. and showing good patterning ability in dry condition)

IT 157089-26-4 161453-44-7 220059-84-7
RL: CAT (Catalyst use); USES (Uses)
(photoacid generator; chem. amplified pos. photoresist contg. high-b.p. alcs. and showing good patterning ability in dry condition)

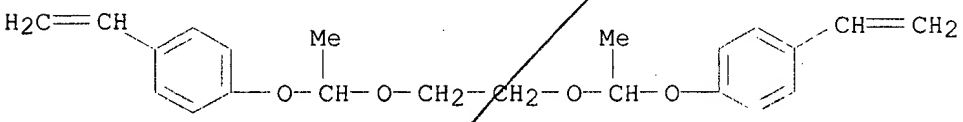
IT **218770-98-0**
RL: TEM (Technical or engineered material use); USES (Uses)
(alkali-sol. resin; chem. amplified pos. **photoresist** contg. high-b.p. alcs. and showing good patterning ability in dry condition)

RN 218770-98-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,2-ethanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

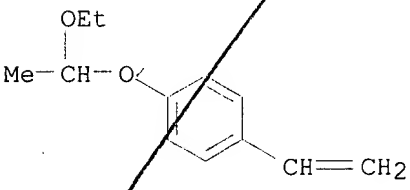
CM 1

CRN 215319-88-3
CMF C22 H26 O4



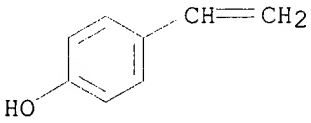
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O



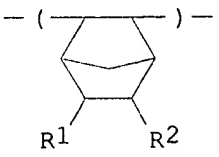
L12 ANSWER 23 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:34622 HCAPLUS
DN 130:131782
TI Copolymer for chemically amplified positive resist composition
IN Fujishima, Hiroaki; Kamitani, Yasunori; Miya, Yoshiko
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08F222-06; C08F222-14; C08F232-00; G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 35, 76

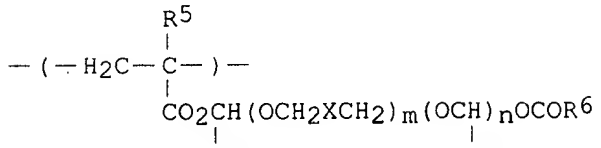
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11002903	A2	19990106	JP 1997-278570	19971013
PRAI	JP 1997-95656		19970414		

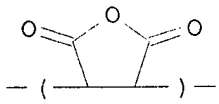
GI



I



II



III

AB The copolymer has repeating unit I (R1-2 = alkyl, OH, carboxylic acid anhydride with R1 and R2 together, etc.) II (R5 = H, Me; R6 = aliph. ring; X = single bond, C1-4 alkylene or cycloalkylene; m and n = 0, 1), and III. The chem. amplified pos. resist compn. contains the copolymer and an acid generating agent. The copolymer provides the resist of high sensitivity, high resoln., and excellent adhesion towards a substrate.

ST copolymer chem amplified pos resist compn

IT Positive photoresists
(chem. amplified; copolymer for chem. amplified pos. resist compn.)

IT Polymers, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(co-; copolymer for chem. amplified pos. resist compn.)

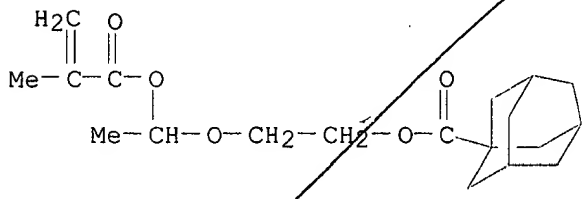
IT 29651-47-6, .alpha.-Methylolbenzoin tosylate
RL: TEM (Technical or engineered material use); USES (Uses)
(acid generating agent)

IT **181894-81-5P** 219774-65-9P **219774-67-1P**
219774-70-6P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(copolymer for chem. amplified pos. **resist** compn.)

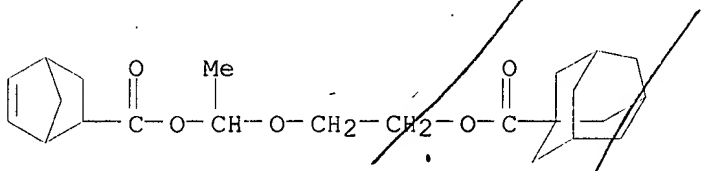
IT **219774-64-8P 219774-66-0P 219774-68-2P**
219774-69-3P 219774-71-7P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(copolymer for chem. amplified pos. **resist** compn.)

IT 77-73-6 79-10-7, 2-Propenoic acid, reactions 79-41-4, reactions 109-92-2 120-74-1, 5-Norbornene-2-carboxylic acid 542-92-7, Cyclopentadiene, reactions 764-48-7 828-51-3, 1-Adamantane carboxylic acid 2094-72-6, 1-Adamantanecarbonyl chloride 219774-72-8
RL: RCT (Reactant)
(copolymer for chem. amplified pos. resist compn.)

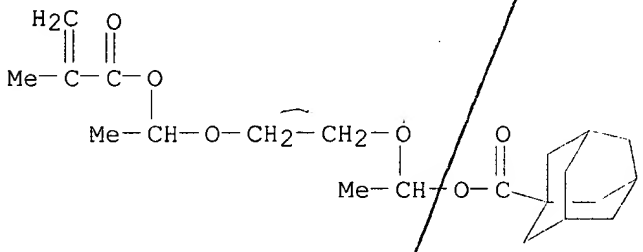
IT **181894-81-5P 219774-67-1P 219774-70-6P**
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(copolymer for chem. amplified pos. **resist** compn.)
RN 181894-81-5 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



RN 219774-67-1 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(bicyclo[2.2.1]hept-5-en-2-ylcarbonyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



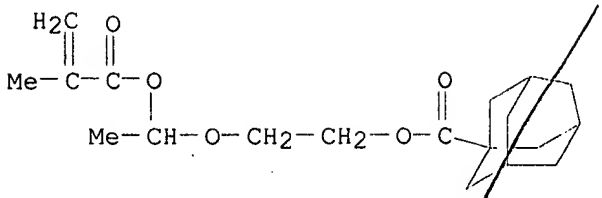
RN 219774-70-6 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 1-[2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



IT **219774-64-8P 219774-66-0P 219774-68-2P**
219774-69-3P 219774-71-7P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(copolymer for chem. amplified pos. **resist** compn.)
RN 219774-64-8 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

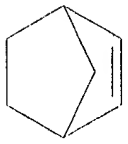
CM 1

CRN 181894-81-5
CMF C19 H28 O5



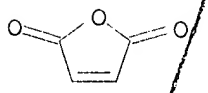
CM 2

CRN 498-66-8
CMF C7 H10



CM 3

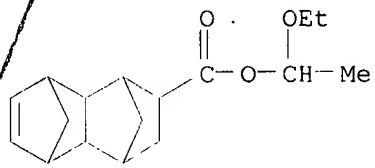
CRN 108-31-6
CMF C4 H2 O3



RN 219774-66-0 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1-ethoxyethyl ester, polymer with 2,5-furandione and 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl tricyclo[3.3.1.13,7]decane-1-carboxylate (9CI) (CA INDEX NAME)

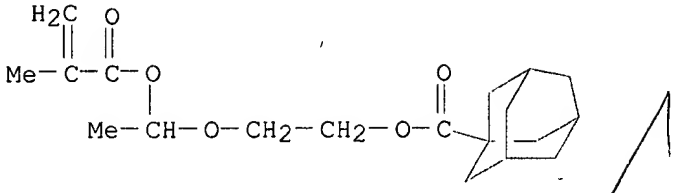
CM 1

CRN 219774-65-9
CMF C17 H24 O3



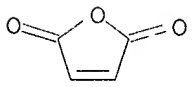
CM 2

CRN 181894-81-5
CMF C19 H28 O5



CM 3

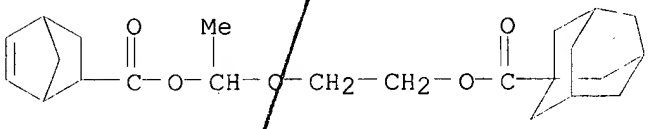
CRN 108-31-6
CMF C4 H2 O3



RN 219774-68-2 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(bicyclo[2.2.1]hept-5-en-2-ylcarbonyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione and 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl tricyclo[3.3.1.13,7]decane-1-carboxylate (9CI) (CA INDEX NAME)

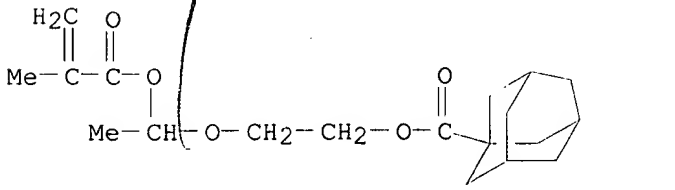
CM 1

CRN 219774-67-1
CMF C23 H32 O5



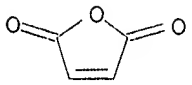
CM 2

CRN 181894-81-5
CMF C19 H28 O5



CM 3

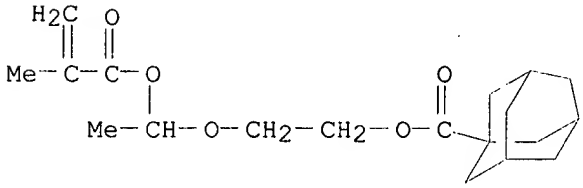
CRN 108-31-6
CMF C4 H2 O3



RN 219774-69-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

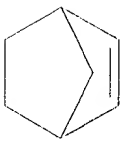
CM 1

CRN 181894-81-5
CMF C19 H28 O5



CM 2

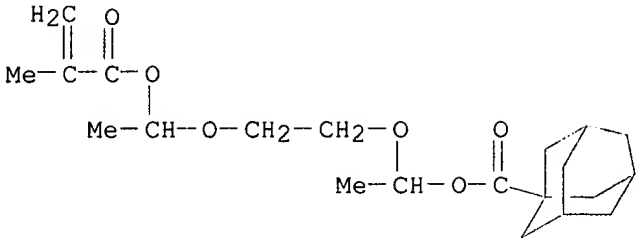
CRN 498-66-8
CMF C7 H10



RN 219774-71-7 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 1-[2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethoxy]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

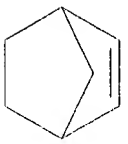
CM 1

CRN 219774-70-6
CMF C21 H32 O6



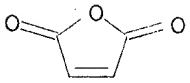
CM 2

CRN 498-66-8
CMF C7 H10



CM 3

CRN 108-31-6
CMF C4 H2 O3



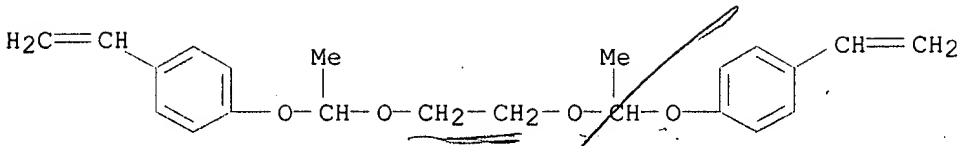
L12 ANSWER 24 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:32053 HCAPLUS
DN 130:88177
TI Photoresist composition
IN Hatakeyama, Jun; Nishi, Tsunehiro; Nagata, Takeshi; Nagura, Shigehiro
PA Shin-Etsu Chemical Co., Ltd., Japan
SO Eur. Pat. Appl., 36 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G03F007-004
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 887705	A1	19981230	EP 1998-305072	19980626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11084639	A2	19990326	JP 1998-195065	19980625
US 6274286	B1	20010814	US 1998-105003	19980626

PRAI JP 1997-185814 A 19970626
OS MARPAT 130:88177
AB A chem. amplified photoresist compn., suitable for microfabrication by photolithog., contains a resin base, an org. solvent, and a photoacid generator. In order to reduce problems of shape loss at the developed resist layer following baking, the compn. addnl. contains a basic compd. according to one of the following formula N[CH2CH2O(R1O)kR4][CH2CH2O(R2O)mR5]CH2CH2O(R3O)nR6 or N[CH2CH2O(R7O)kR9][CH2CH2O(R8O)mR10]H wherein R1, R2, R3, R7, and R8 are independently normal, branched or cyclic alkylene groups having 1 to 20 carbon atoms, R4, R5, R6, R9, and R10 are independently hydrogen, alkyl groups having 1 to 20 carbon atoms or amino groups, R4 and R5, R5 and R6, R4 and R6, or R4, R5 and R6, and R9 and R10 taken together may form a ring, letters k, m and n are integers of 0 to 20, with the proviso that hydrogen is excluded from R4, R5, R6, R9 and R10 when k, m or n is equal to 0.
ST chem amplified photoresist tertiary amine
IT Photoresists
(chem.-amplification; contg. tertiary amines)
IT 23978-09-8 23978-55-4 33941-15-0 66943-05-3, 1,4,7,10-Tetraoxa-13-azacyclopentadecane 70384-51-9 73154-09-3
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplified photoresists contg.)
IT 3089-11-0 14159-45-6 24979-70-2 117458-06-7 129674-22-2 138529-81-4 157089-26-4 158593-28-3 161453-44-7 166597-59-7 177034-75-2 **218770-98-0**
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplified **photoresists** contg. tertiary amines and)
IT 211919-60-7P 218770-96-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and use in prepg. chem. amplified photoresists)
IT 102-71-6, Triethanolamine, reactions 107-30-2, Chloromethyl methyl ether 865-47-4 89268-03-1
RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses)
(reaction in prepg. tertiary amines for chem. amplified photoresists)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Japan Synthetic Rubber Co Ltd; EP 0558280 A 1993 HCAPLUS
(2) Japan Synthetic Rubber Co Ltd; EP 0660187 A 1995 HCAPLUS
(3) Minnesota Mining And Manufacturing Company; EP 0369645 A 1990 HCAPLUS
(4) Wako Pure Chemical Industries Ltd; EP 0780732 A 1997 HCAPLUS
IT **218770-98-0**
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplified **photoresists** contg. tertiary amines and)
RN 218770-98-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,2-ethanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

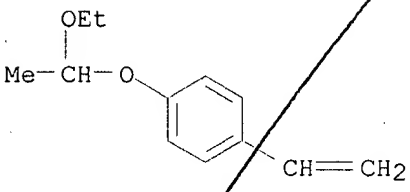
CM 1

CRN 215319-88-3
CMF C22 H26 O4



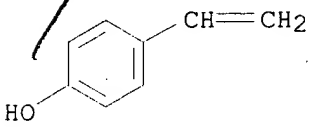
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O



L12 ANSWER 25 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:792984 HCAPLUS
DN 130:88163
TI Method of patterning chemical amplification-type positive working resist film
IN Hatakeyama, Jun; Nagura, Shigehiro
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; G03F007-38; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10326017	A2	19981208	JP 1998-91041	19980319
	US 6117621	A	20000912	US 1998-48022	19980326
PRAI	JP 1997-95103	A	19970328		
OS	MARPAT 130:88163				

AB The process uses a resist which contains polymers having different acid unstable groups or a polymer having different acid-unstable groups in the same mol. By changing types and contents of the acid-unstable groups, an exposure (E1), which gives the av. dissoln. rate of the resist to be 100 .ANG./s to the depth up to 500 .ANG. from the surface of the resist film, and an exposure (E2), which gives the av. dissoln. rate of the resist to be 100 .ANG./s to the height of 1,000 .ANG. from the surface of the substrate, can suffice -0.2<(E2 - E1)/E2<0.2. The process provided a resist pattern having high resoln. and focal depth.

ST resist patterning polymer

IT Photoresists
(method of patterning chem. amplification-type pos. working resist film)

IT 24979-70-2 125325-82-8 157057-21-1 177034-75-2 **218770-98-0** **218796-79-3** 218796-81-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(polymer contained in chem. amplification-type pos. working **resist** film)

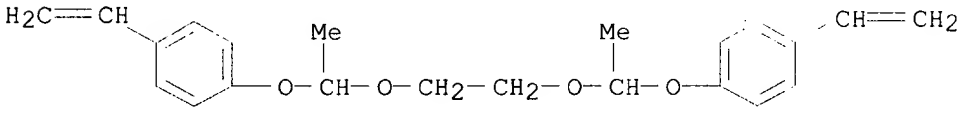
IT **218770-98-0** **218796-79-3**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(polymer contained in chem. amplification-type pos. working **resist** film)

RN 218770-98-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,2-ethanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

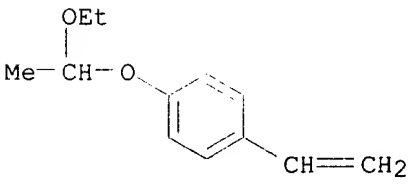
CM 1

CRN 215319-88-3
CMF C22 H26 O4



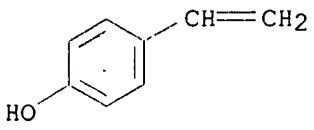
CM 2

CRN 157057-20-0
CMF C12 H16 O2



CM 3

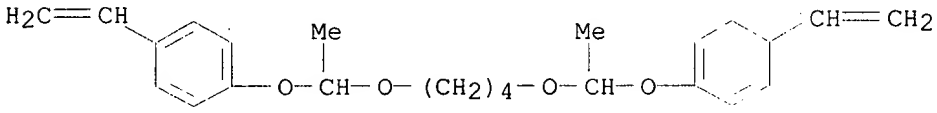
CRN 2628-17-3
CMF C8 H8 O



RN 218796-79-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

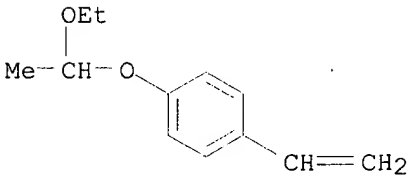
CM 1

CRN 215319-92-9
CMF C24 H30 O4



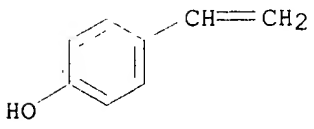
CM 2

CRN 157057-20-0
CMF C12 H16 O2



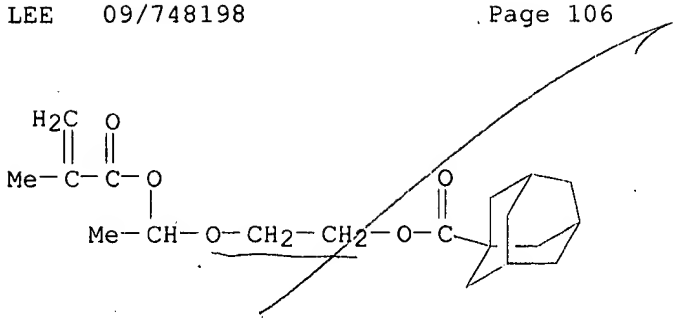
CM 3

CRN 2628-17-3
CMF C8 H8 O

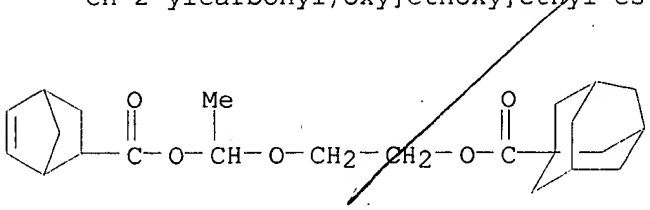


L12 ANSWER 26 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:776545 HCAPLUS
DN 130:160510

TI Standard developer available ArF resist and performance
AU Uetani, Yasunori; Fujishima, Hiroaki; Miya, Yoshiko; Takemoto, Ichiki
CS Fine Chemicals Research Laboratory, Sumitomo Chemical Co., Ltd., Osaka, 554-8558, Japan
SO Proc. SPIE-Int. Soc. Opt. Eng. (1998), 3333(Pt. 1, Advances in Resist Technology and Processing XV), 546-553
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
AB Alicyclic groups are preferable resin components of ArF resists due to better dry-etching resistance and higher transparency at 193 nm. On the other hand, Alicyclic groups bring poor adhesion of ArF resists during wet development, because of their higher hydrophobic nature. To avoid the peeling problem dild. developer has been suggested to use. However, the compatibility with existing std. developer of i-line and KrF resists is necessary for the mass prodn. In this paper we compared two kinds of resists for the std. developer(TMAH 2.38 %) application. The former has AdCEE unit and norbornene deriv./maleic anhydride alternating copolymer, together with relatively weak org. acid generating PAG. The latter having 2MAdMA/GBLMA copolymer and onium salt PAG shows better lithog. performance.
ST ArF resist photoresist alicyclic maleic anhydride norbornene adhesion
IT Photoresists
(std. developer available ArF resist and performance)
IT 79-41-4, Methacrylic acid, reactions 764-48-7 828-51-3 7719-09-7, Thionyl chloride 68232-83-7, Bicyclo[2.2.1]heptenecarboxylic acid
RL: RCT (Reactant)
(in prepn. of monomer for ArF resist)
IT 2094-72-6P **181894-81-5P 219774-67-1P** 219774-72-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of monomer for ArF **resist**)
IT 195000-67-0P **219774-64-8P 219774-68-2P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(std. developer available ArF **resist** and performance)
IT 29651-47-6, .alpha.-Methylolbenzointosylate
RL: TEM (Technical or engineered material use); USES (Uses)
(std. developer available ArF resist and performance)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allen, R; J of Photopolymer Sci and Tech 1995, V8(4), P623 HCAPLUS
(2) Iwasa, S; J of Photopolymer Sci and Tech 1996, V9(3), P447 HCAPLUS
(3) Maeda, K; Proc of SPIE 2724 1996, P377 HCAPLUS
(4) Nozaki, K; J of Photopolymer Sci and Tech 1997, V10(4), P545 HCAPLUS
(5) Takechi, S; J of Photopolymer Sci and Tech 1996, V9(3), P475 HCAPLUS
(6) Wallow, T; Proc of SPIE 1996, V2724, P355
IT **181894-81-5P 219774-67-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of monomer for ArF **resist**)
RN 181894-81-5 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



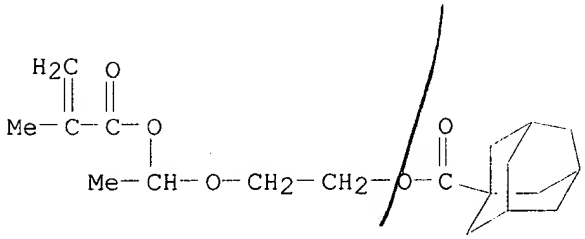
RN 219774-67-1 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(bicyclo[2.2.1]hept-5-en-2-ylcarbonyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



IT **219774-64-8P 219774-68-2P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(std. developer available ArF **resist** and performance)
RN 219774-64-8 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

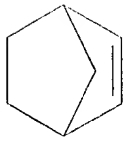
CM 1

CRN 181894-81-5
CMF C19 H28 O5



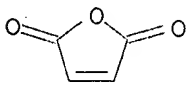
CM 2

CRN 498-66-8
CMF C7 H10



CM 3

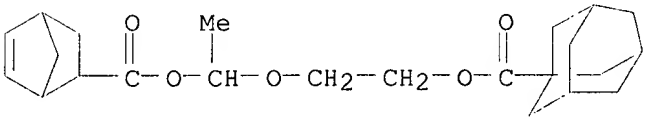
CRN 108-31-6
CMF C4 H2 O3



RN 219774-68-2 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(bicyclo[2.2.1]hept-5-en-2-ylcarbonyl)oxy]ethoxy]ethyl ester, polymer with 2,5-furandione and 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl tricyclo[3.3.1.13,7]decane-1-carboxylate (9CI) (CA INDEX NAME)

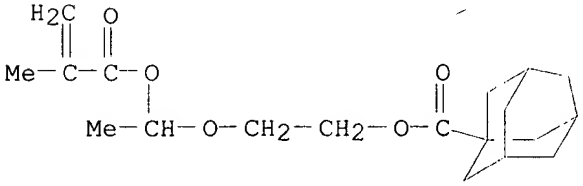
CM 1

CRN 219774-67-1
CMF C23 H32 O5



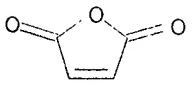
CM 2

CRN 181894-81-5
CMF C19 H28 O5



CM 3

CRN 108-31-6
CMF C4 H2 O3



L12 ANSWER 27 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:764063 HCAPLUS

DN 130:73844
TI Silicon polymer for chemically amplified positive resist material and method of pattern formation using same
IN Takemura, Katsunari; Tsuchiya, Junji; Kaneko, Ichiro; Ishihara, Toshinobu
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 62 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G077-14
ICS C08G077-46; G03F007-039; H01L021-027; G03F007-075
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10310642	A2	19981124	JP 1998-58946	19980224
	US 6066433	A	20000523	US 1998-37023	19980309
PRAI	JP 1997-72702		19970310		

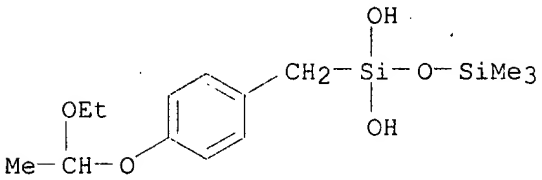
AB In the silicon polymer of 5,000-50,000 wt. av. mol. wt. having phenolic hydroxy groups, the phenolic hydrogens are partially substituted with acid unstable groups and the remaining phenolic hydroxy group are partially cross-linked inter- or/ and intra-molecularly with -C-O-C- group. The pos. type resist material contg. the silicon polymer has a narrow range of exposure wavelength and the excellent characteristics for oxygen plasma etching. The invention provides a resist of high precision and of a high aspect ratio.

ST silicon polymer chem amplified pos resist
IT Silsesquioxanes
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(Silicon polymer for chem. amplified pos. resist material)
IT Positive photoresists
(silicon polymer for chem. amplified pos. resist material and method of pattern formation using same)
IT Polysiloxanes, reactions
RL: PNU (Preparation, unclassified); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silicon polymer for chem. amplified pos. resist material and method of pattern formation using same)
IT 109-92-2D, Ethyl vinyl ether, reaction product with poly(hydroxybenzylsilsesquioxane) 765-12-8D, Triethylene glycol divinylether, reaction product with poly(hydroxybenzylsilsesquioxane) 928-55-2D, 1-Ethoxypropene, reaction product with poly(hydroxybenzylsilsesquioxane) 999-97-3, Hexamethyldisilazane 1191-99-7, 2,3-Dihydrofuran 17988-20-4 24424-99-5 218148-35-7
RL: RCT (Reactant)
(Silicon polymer for chem. amplified pos. resist material)
IT **218148-16-4 218148-18-6 218148-20-0**
218148-21-1 218148-23-3 218148-26-6
218148-27-7 218148-28-8 218148-29-9
218148-31-3 218148-33-5
RL: TEM (Technical or engineered material use); USES (Uses)
(Silicon polymer for chem. amplified pos. **resist** material)
IT **218148-16-4 218148-18-6 218148-20-0**
218148-21-1 218148-23-3 218148-26-6
218148-27-7 218148-28-8 218148-29-9
218148-31-3 218148-33-5
RL: TEM (Technical or engineered material use); USES (Uses)
(Silicon polymer for chem. amplified pos. **resist** material)

RN 218148-16-4 HCAPLUS
CN 1,1-Disiloxanediol, 1,1'-[(1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl)bis(oxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-, polymer with 1-[[4-(1-ethoxyethoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and-1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

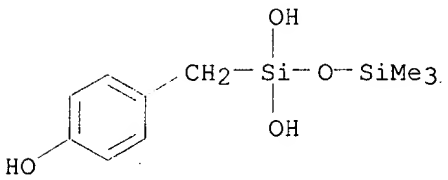
CM 1

CRN 218148-15-3
CMF C14 H26 O5 Si2



CM 2

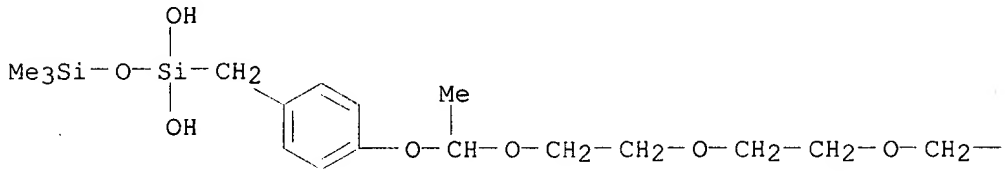
CRN 218148-14-2
CMF C10 H18 O4 Si2



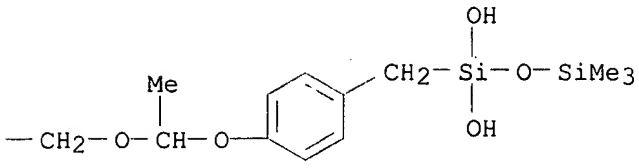
CM 3

CRN 218148-13-1
CMF C30 H54 O12 Si4

PAGE 1-A



PAGE 1-B

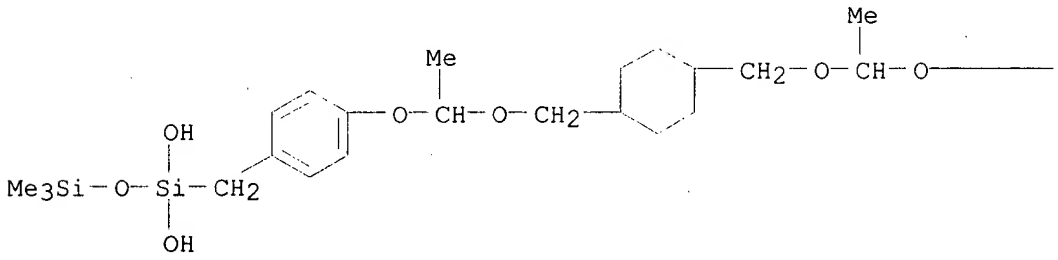


RN 218148-18-6 HCAPLUS
CN 1,1-Disiloxanediol, 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-, polymer with 1-[[4-(1-ethoxyethoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

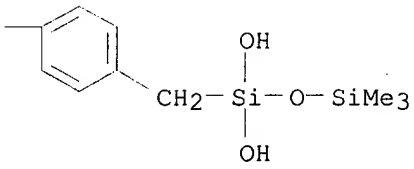
CM 1

CRN 218148-17-5
CMF C32 H56 O10 Si4

PAGE 1-A

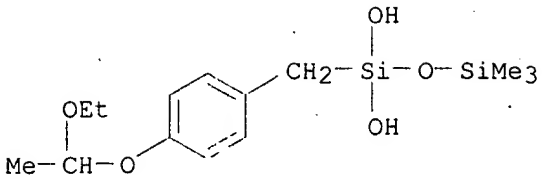


PAGE 1-B



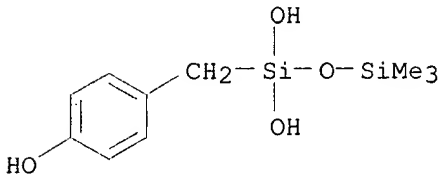
CM 2

CRN 218148-15-3
CMF C14 H26 O5 Si2



CM 3

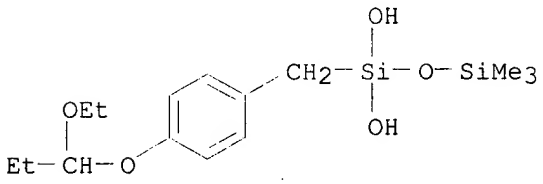
CRN 218148-14-2
CMF C10 H18 O4 Si2



RN 218148-20-0 HCAPLUS
CN 1,1-Disiloxanediol, 1,1'-[(1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl)bis(oxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-, polymer with 1-[[4-(1-ethoxypropoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

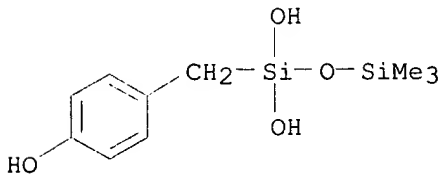
CM 1

CRN 218148-19-7
CMF C15 H28 O5 Si2



CM 2

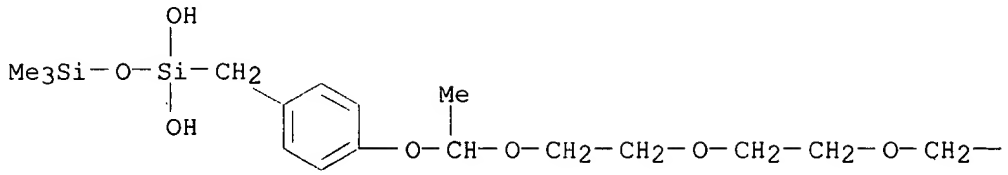
CRN 218148-14-2
CMF C10 H18 O4 Si2



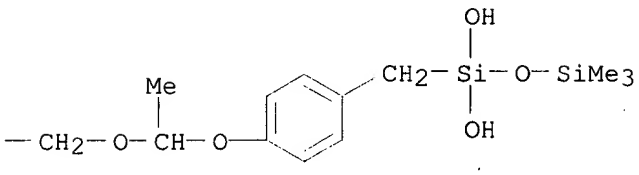
CM 3

CRN 218148-13-1
CMF C30 H54 O12 Si4

PAGE 1-A



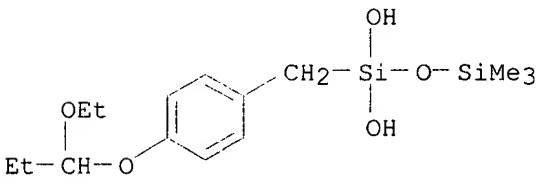
PAGE 1-B



RN 218148-21-1 HCAPLUS
CN 1,1-Disiloxanediol, 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-, polymer with 1-[[4-(1-ethoxypropoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

CM 1

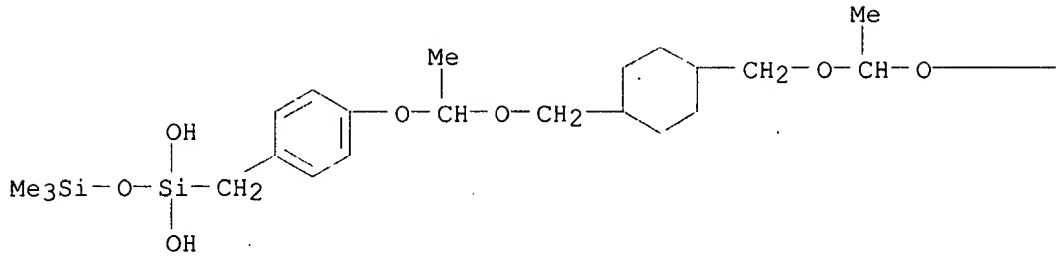
CRN 218148-19-7
CMF C15 H28 O5 Si2



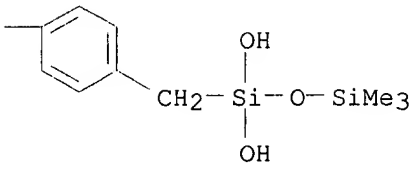
CM 2

CRN 218148-17-5
CMF C32 H56 O10 Si4

PAGE 1-A

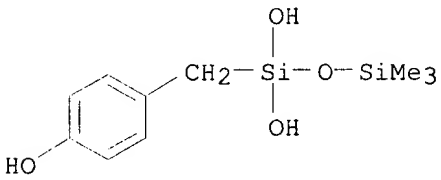


PAGE 1-B



CM 3

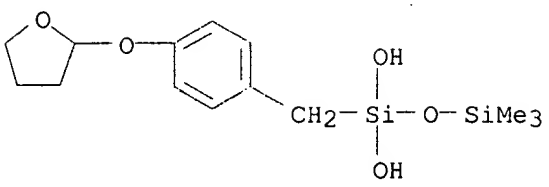
CRN 218148-14-2
CMF C10 H18 O4 Si2



RN 218148-23-3 HCAPLUS
CN 1,1-Disiloxanediol, 1,1'-[(1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl)bis(oxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-, polymer with 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 3,3,3-trimethyl-1-[[4-[(tetrahydro-2-furanyl)oxy]phenyl]methyl]-1,1-disiloxanediol (9CI) (CA INDEX NAME)

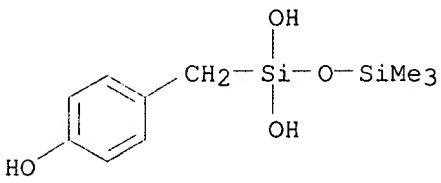
CM 1

CRN 218148-22-2
CMF C14 H24 O5 Si2



CM 2

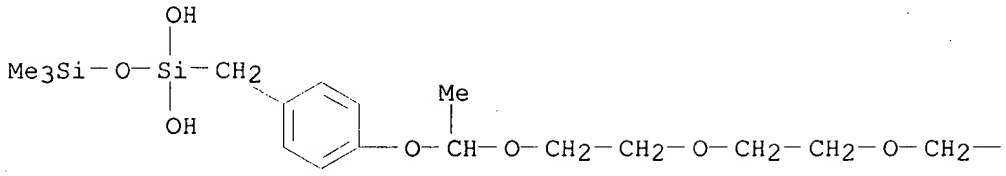
CRN 218148-14-2
CMF C10 H18 O4 Si2



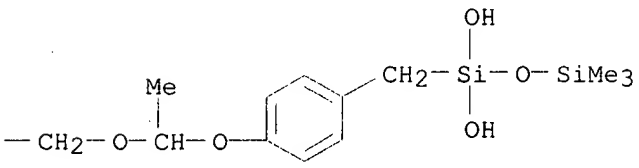
CM 3

CRN 218148-13-1
CMF C30 H54 O12 Si4

PAGE 1-A



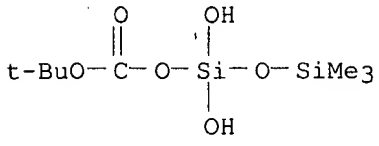
PAGE 1-B



RN 218148-26-6 HCAPLUS
CN Carbonic acid, 1,1-dihydroxy-3,3,3-trimethyldisiloxanyl 1,1-dimethylethyl ester, polymer with 1,1'-[(1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl)bis(oxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-1,1-disiloxanediol], 1-[[4-(1-ethoxyethoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

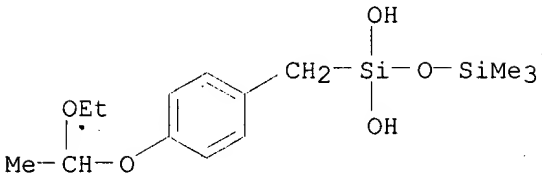
CM 1

CRN 218148-25-5
CMF C8 H20 O6 Si2



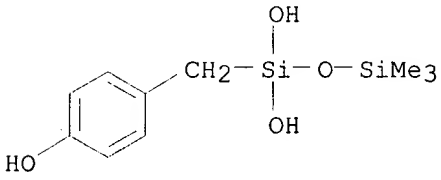
CM 2

CRN 218148-15-3
CMF C14 H26 O5 Si2



CM 3

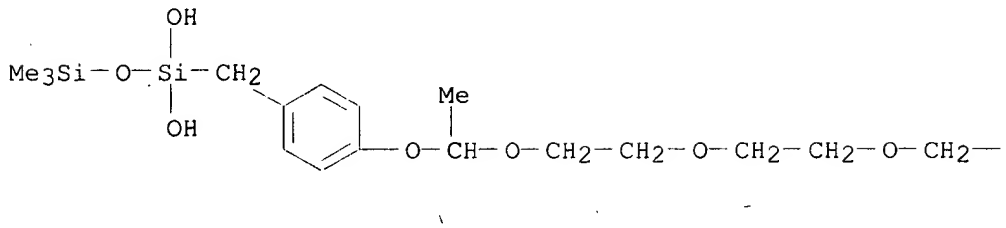
CRN 218148-14-2
CMF C10 H18 O4 Si2



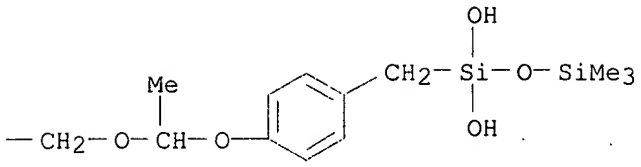
CM 4

CRN 218148-13-1
CMF C30 H54 O12 Si4

PAGE 1-A



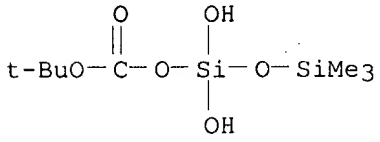
PAGE 1-B



RN 218148-27-7 HCAPLUS
CN Carbonic acid, 1,1-dihydroxy-3,3,3-trimethyldisiloxanyl 1,1-dimethylethyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-1,1-disiloxanediol], 1-[[4-(1-ethoxyethoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

CM 1

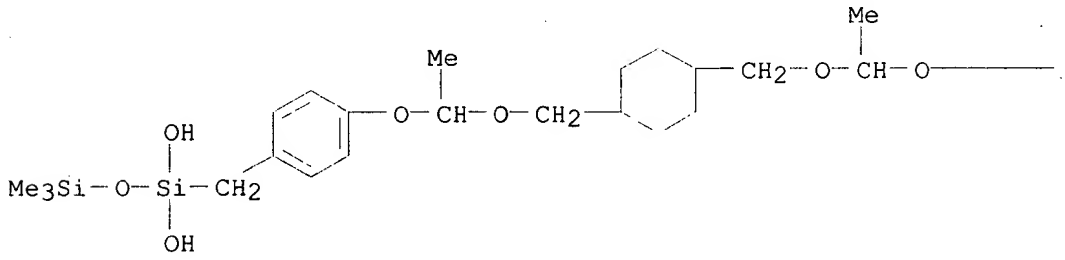
CRN 218148-25-5
CMF C8 H20 O6 Si2



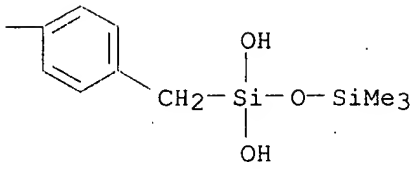
CM 2

CRN 218148-17-5
CMF C32 H56 O10 Si4

PAGE 1-A

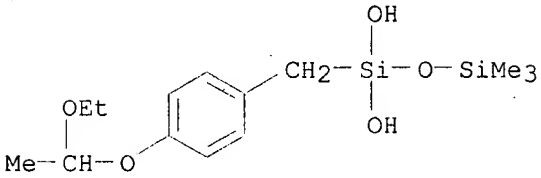


PAGE 1-B



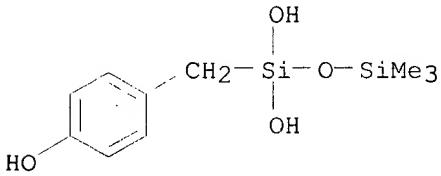
CM 3

CRN 218148-15-3
CMF C14 H26 O5 Si2



CM 4

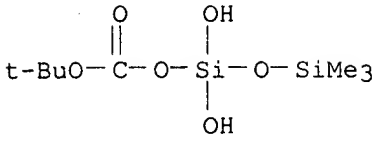
CRN 218148-14-2
CMF C10 H18 O4 Si2



RN 218148-28-8 HCAPLUS
CN Carbonic acid, 1,1-dihydroxy-3,3,3-trimethyldisiloxanyl 1,1-dimethylethyl ester, polymer with 1,1'-[(1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl)bis(oxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-1,1-disiloxanediol], 1-[[4-(1-ethoxypropoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

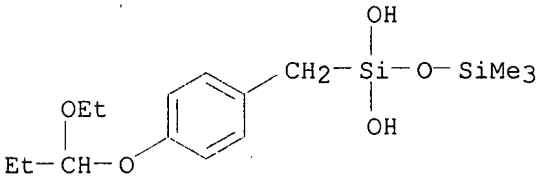
CM 1

CRN 218148-25-5
CMF C8 H20 O6 Si2



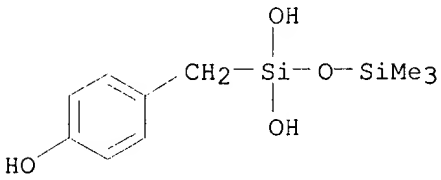
CM 2

CRN 218148-19-7
CMF C15 H28 O5 Si2



CM 3

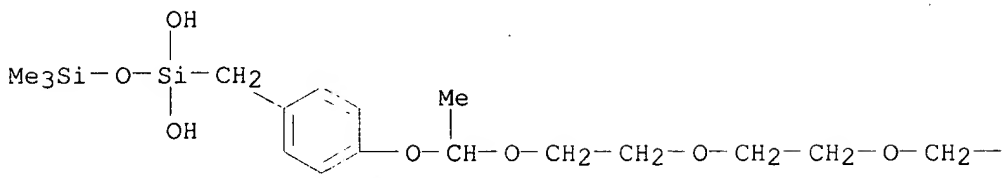
CRN 218148-14-2
CMF C10 H18 O4 Si2



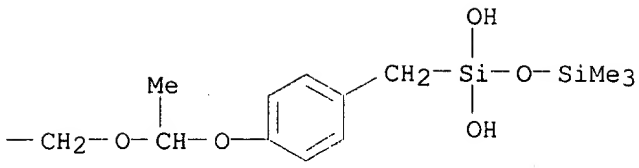
CM 4

CRN 218148-13-1
CMF C30 H54 O12 Si4

PAGE 1-A



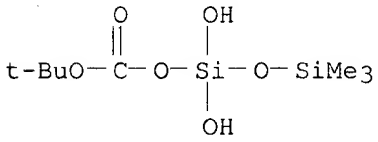
PAGE 1-B



RN 218148-29-9 HCAPLUS
CN Carbonic acid, 1,1-dihydroxy-3,3,3-trimethyldisiloxanyl 1,1-dimethylethyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-1,1-disiloxanediol], 1-[[4-(1-ethoxypropoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

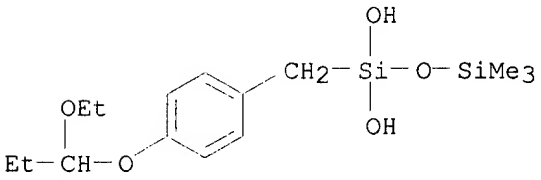
CM 1

CRN 218148-25-5
CMF C8 H20 O6 Si2



CM 2

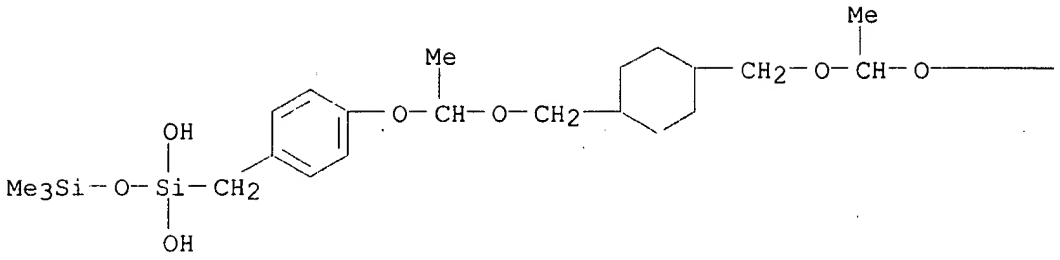
CRN 218148-19-7
CMF C15 H28 O5 Si2



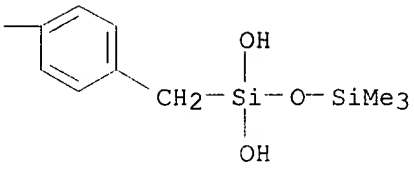
CM 3

CRN 218148-17-5
CMF C32 H56 O10 Si4

PAGE 1-A

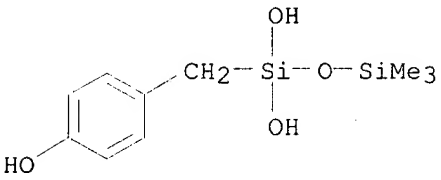


PAGE 1-B



CM 4

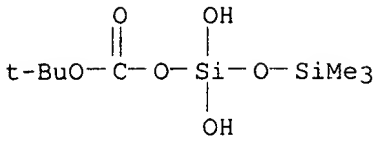
CRN 218148-14-2
CMF C10 H18 O4 Si2



RN 218148-31-3 HCAPLUS
CN Carbonic acid, 1,1-dihydroxy-3,3,3-trimethyldisiloxanyl 1,1-dimethylethyl ester, polymer with 1,1'-[(1,12-dimethyl-2,5,8,11-tetraoxadodecane-1,12-diyl)bis(oxy-4,1-phenylenemethylene)]bis[3,3,3-trimethyl-1,1-disiloxanediol], 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 3,3,3-trimethyl-1-[[4-[(tetrahydro-2-furanyl)oxy]phenyl]methyl]-1,1-disiloxanediol (9CI) (CA INDEX NAME)

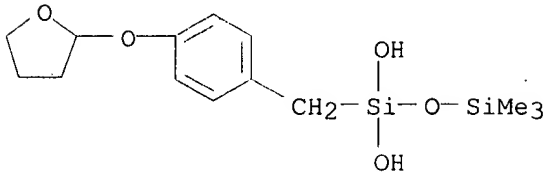
CM 1

CRN 218148-25-5
CMF C8 H20 O6 Si2



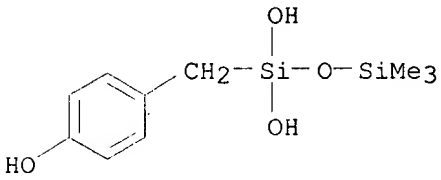
CM 2

CRN 218148-22-2
CMF C14 H24 O5 Si2



CM 3

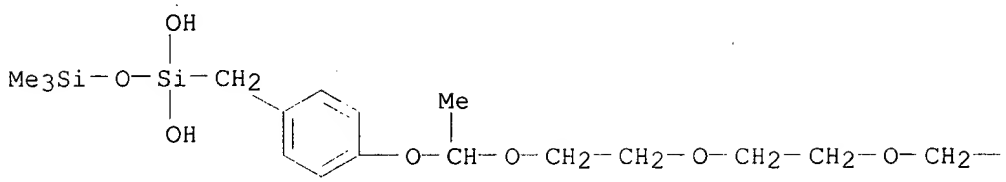
CRN 218148-14-2
CMF C10 H18 O4 Si2



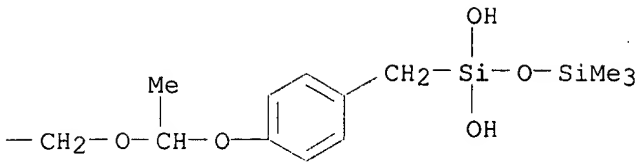
CM 4

CRN 218148-13-1
CMF C30 H54 O12 Si4

PAGE 1-A



PAGE 1-B

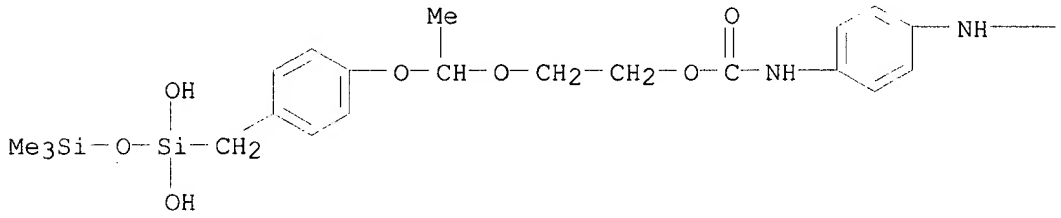


RN 218148-33-5 HCAPLUS
CN Carbonic acid, 1,1-dihydroxy-3,3,3-trimethyldisiloxanyl 1,1-dimethylethyl ester, polymer with bis[2-[1-[4-[(1,1-dihydroxy-3,3,3-trimethyldisiloxanyl)methyl]phenoxy]ethoxy]ethyl] 1,4-phenylenebis[carbamate], 1-[[4-(1-ethoxyethoxy)phenyl]methyl]-3,3,3-trimethyl-1,1-disiloxanediol and 1-[(4-hydroxyphenyl)methyl]-3,3,3-trimethyl-1,1-disiloxanediol (9CI) (CA INDEX NAME)

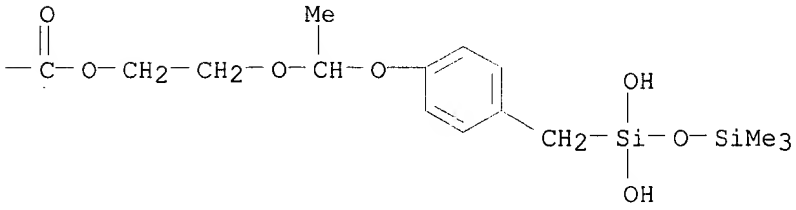
CM 1

CRN 218148-32-4
CMF C36 H56 N2 O14 Si4

PAGE 1-A

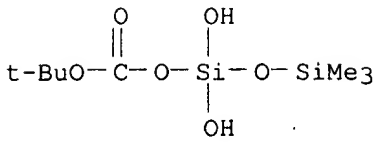


PAGE 1-B



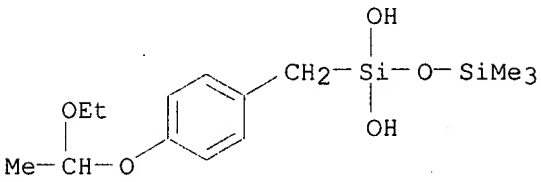
CM 2

CRN 218148-25-5
CMF C8 H20 O6 Si2



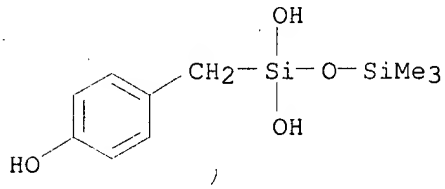
CM 3

CRN 218148-15-3
CMF C14 H26 O5 Si2



CM 4

CRN 218148-14-2
CMF C10 H18 O4 Si2



L12 ANSWER 28 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:744916 HCAPLUS
DN 130:31164
TI Positive photosensitive composition
IN Aoai, Toshiaki; Sato, Kenichiro; Yagihara, Morio
PA Fuji Photo Film Co., Ltd., Japan
SO Eur. Pat. Appl., 64 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G03F007-004
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 877293	A2	19981111	EP 1998-108461	19980508
	EP 877293	A3	19990623		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 10307397	A2	19981117	JP 1997-119772	19970509

JP 10307398 A2 19981117 JP 1997-119773 19970509
PRAI JP 1997-119772 19970509
JP 1997-119773 19970509

AB Disclosed is a pos. photosensitive compn. capable of giving good sensitivity, resoln. and resist patterns and exhibiting sufficiently high dry etching resistance on use of an exposure light source of 250 nm or less, particularly 220 nm or less, and comprising (A) a compd. generating an acid on irradn. of an active light ray or radiation and (B) a resin having (i) at least one polycyclic-type alicyclic group, (ii) at least one ester group which decomps. by the action of an acid and increases the soly. in an alkali developer, and (iii) at least one acetal group which decomps. by the action of an acid and increases the soly. in an alkali developer or comprises (A) a compd. generating an acid on irradn. of an active light ray or radiation, (B) a resin having a polycyclic-type alicyclic group and an ester group which decomps. by the action of an acid and increases the soly. in an alkali developer, and (C) a resin having a polycyclic-type alicyclic group and an acetal group which decomps. by the action of an acid and increases the soly. in an alkali developer.

ST pos photoresist polycyclic resin acetal ester

IT Positive photoresists
(contg. polycyclic resins contg. acetal and ester groups)

IT 182073-92-3 216098-17-8 216098-19-0 216098-22-5 216098-23-6
216098-25-8 216098-29-2 216098-37-2 216098-38-3 216098-40-7
216098-41-8 216098-42-9 216098-45-2 216098-48-5 216220-01-8
216220-04-1 216220-05-2 216220-06-3 **216220-07-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. **photoresists** contg. photosensitive acid generators and)

IT 66003-78-9, Triphenylsulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. photoresists contg. polycyclic resins contg. acetal and ester groups and)

IT **216220-04-1 216220-07-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. **photoresists** contg. photosensitive acid generators and)

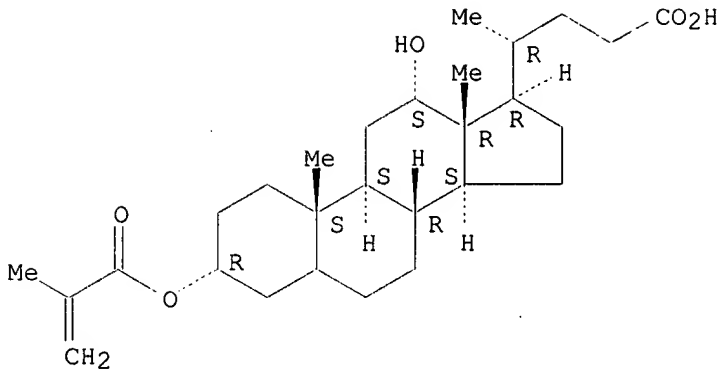
RN 216220-04-1 HCAPLUS

CN Cholan-24-oic acid, 12-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]-, (3.alpha.,12.alpha.)-, polymer with 1-[2-(acetyloxy)ethoxy]ethyl methyl 2-methyl-2-butenedioate and 1-ethyl-1-methylpropyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

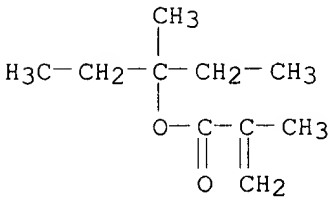
CRN 213469-87-5
CMF C28 H44 O5

Absolute stereochemistry.



CM 2

CRN 63715-93-5
CMF C10 H18 O2

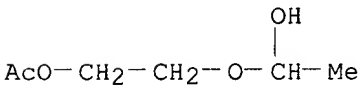


CM 3

CRN 216220-03-0
CMF C12 H18 O7
CCI IDS
CDES 8:ID

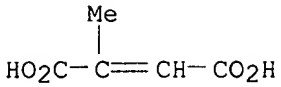
CM 4

CRN 216220-02-9
CMF C6 H12 O4



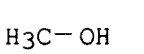
CM 5

CRN 7407-59-2
CMF C5 H6 O4



CM 6

CRN 67-56-1
CMF C H4 O

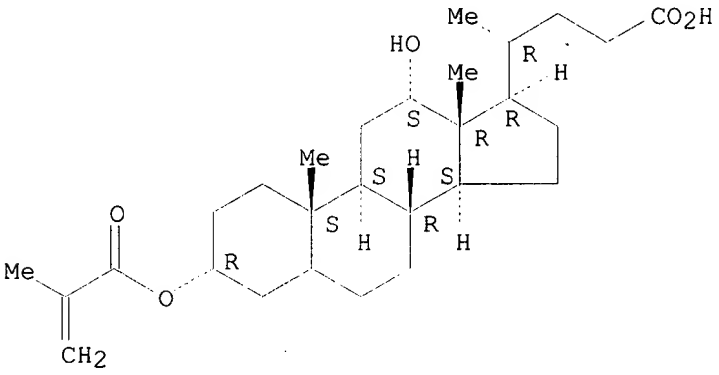


RN 216220-07-4 HCAPLUS
CN Cholan-24-oic acid, 12-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]-, (3.alpha.,12.alpha.)-, polymer with 1-[2-(acetyloxy)ethoxy]ethyl methyl 2-methyl-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 213469-87-5
CMF C28 H44 O5

Absolute stereochemistry.

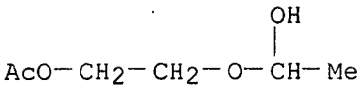


CM 2

CRN 216220-03-0
CMF C12 H18 O7
CCI IDS
CDES 8:ID

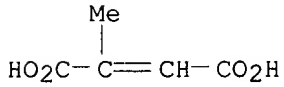
CM 3

CRN 216220-02-9
CMF C6 H12 O4



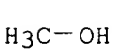
CM 4

CRN 7407-59-2
CMF C5 H6 O4



CM 5

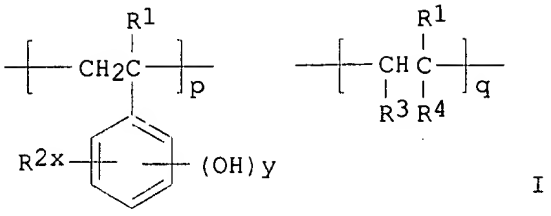
CRN 67-56-1
CMF C H4 O



L12 ANSWER 29 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:661194 HCAPLUS
DN 129:337638
TI Polymer for positive-working chemically amplified resist material
IN Honokai, Kiyoshi; Watanabe, Osamu; Watanabe, Satoshi; Nagura, Shigehiro; Ishihara, Toshinobu
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 78 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08F012-24
ICS C08F008-00; C08F020-06; C08F020-12; G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10265524	A2	19981006	JP 1998-17972	19980114
	US 6156477	A	20001205	US 1998-13270	19980126
PRAI	JP 1997-26026	A	19970124		

GI



I

AB The polymer material has a repeating unit I (R2 = H, CH3; R2 = alkyl; R3 = H; R4 = ester; R3 and R4 forming COOCO; x + y.ltoreq.5; p + q = 1, 0 <q/(p=q).ltoreq.0.9). The compd. I has the phenolic hydrogens and/or hydrogens in carboxyl groups which are partially substituted with acid unstable group, and a -C-O-C- polymer-linking group formed by the reaction between the remaining phenolic hydroxy and/or carboxy group with an alkenyl ether. The compd. I has 0-80 % of the total amt. of the acid unstable groups and polymer-liking groups based on the total of phenolic hydroxy and carboxylic groups, and 1,000-500,000 mol. wt. The resist material shows the excellent sensitivity, resoln., and plasma-etching resistance, and provides the excellent heat-resistant, little over-hung, and well size-controlled resist pattern.

ST polymer pos working chem amplified resist

IT Poly(arylenealkylenes)
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymer for pos.-working chem. amplified resist material)

IT Resists
(pos.-working; polymer for pos.-working chem. amplified resist material)

IT 138217-23-9P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)
(polymer for pos.-working chem. amplified resist material)

IT 24979-71-3P, 4-Hydroxy styrene-methyl methacrylate copolymer 24979-74-6P 110123-07-4P **215319-72-5P** **215319-75-8P** **215319-78-1P** **215319-81-6P** **215319-85-0P** **215319-89-4P** 215319-91-8P **215319-93-0P** **215319-94-1P** **215319-96-3P** 215320-00-6P **215320-02-8P** 215320-03-9P 215320-04-0P **215320-05-1P** **215320-06-2P** **215320-08-4P** 215320-09-5P **215320-10-8P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymer for pos.-working chem. amplified **resist** material)

IT **215319-72-5P** **215319-75-8P** **215319-78-1P** **215319-81-6P** **215319-85-0P** **215319-89-4P** **215319-93-0P** **215319-94-1P** **215319-96-3P** **215320-02-8P** **215320-05-1P** **215320-06-2P** **215320-08-4P** **215320-10-8P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymer for pos.-working chem. amplified **resist** material)

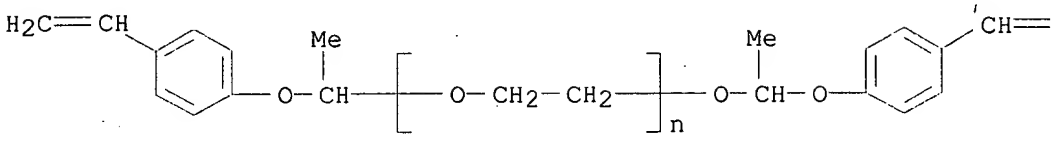
RN 215319-72-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1-ethenyl-4-(1-ethoxyethoxy)benzene, 4-ethenylphenol and .alpha.-[1-(4-ethenylphenoxy)ethyl]-.omega.-[1-(4-ethenylphenoxy)ethoxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 215319-71-4
CMF (C2 H4 O)n C20 H22 O3
CCI PMS

PAGE 1-A

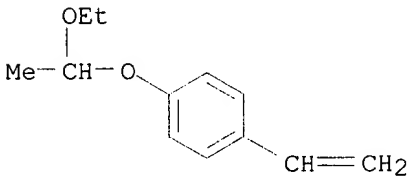


PAGE 1-B

$=CH_2$

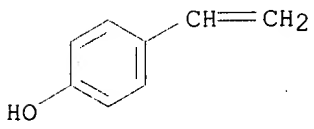
CM 2

CRN 157057-20-0
CMF C12 H16 O2



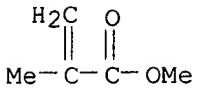
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

CRN 80-62-6
CMF C5 H8 O2

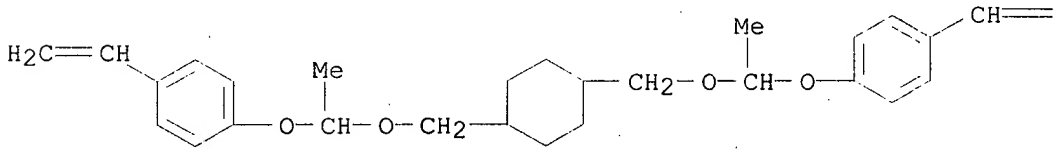


RN 215319-75-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 1,1-dimethylethyl 4-ethenylphenyl carbonate, 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

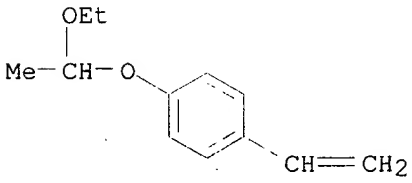
PAGE 1-A



PAGE 1-B

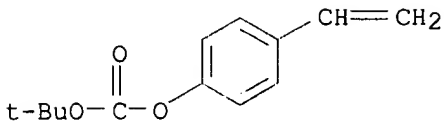
CM 2

CRN 157057-20-0
CMF C12 H16 O2



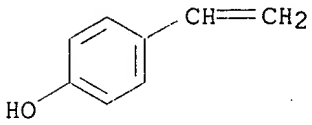
CM 3

CRN 87188-51-0
CMF C13 H16 O3



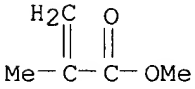
CM 4

CRN 2628-17-3
CMF C8 H8 O



CM 5

CRN 80-62-6
CMF C5 H8 O2

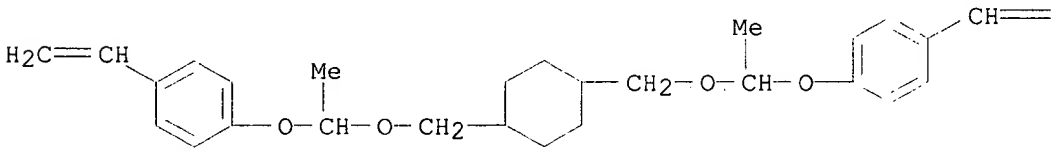


RN 215319-78-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

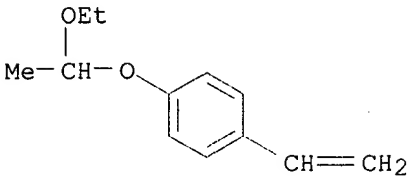
PAGE 1-A



PAGE 1-B

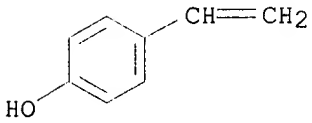
CM 2

CRN 157057-20-0
CMF C12 H16 O2



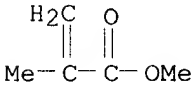
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

CRN 80-62-6
CMF C5 H8 O2

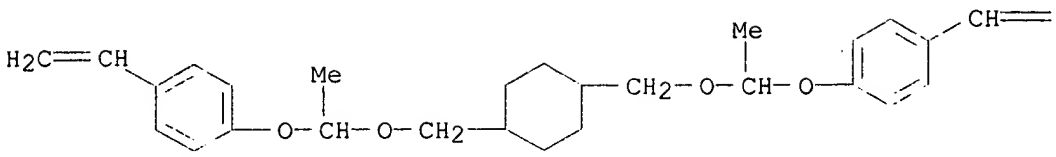


RN 215319-81-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 1,1-dimethylethyl (4-ethenylphenoxy)acetate, 4-ethenylphenol and 2-(4-ethenylphenoxy)tetrahydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

PAGE 1-A

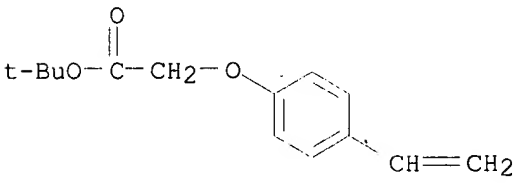


PAGE 1-B

$=CH_2$

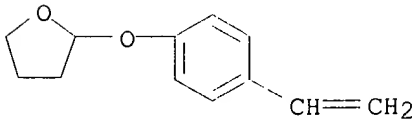
CM 2

CRN 142952-61-2
CMF C14 H18 O3



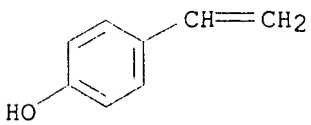
CM 3

CRN 123960-82-7
CMF C12 H14 O2



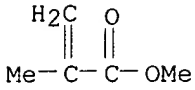
CM 4

CRN 2628-17-3
CMF C8 H8 O



CM 5

CRN 80-62-6
CMF C5 H8 O2

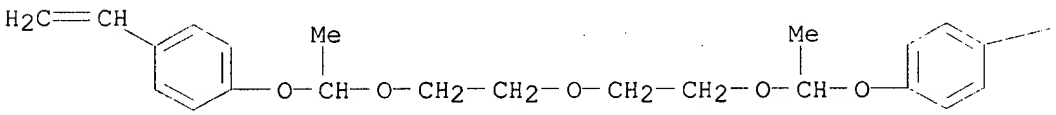


RN 215319-85-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1-ethenyl-4-(1-ethoxyethoxy)benzene, 4-ethenylphenol and 1,1'-[oxybis(2,1-ethanediyloxyethylideneoxy)]bis[4-ethenylbenzene] (9CI) (CA INDEX NAME)

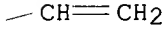
CM 1

CRN 215319-84-9
CMF C24 H30 O5

PAGE 1-A

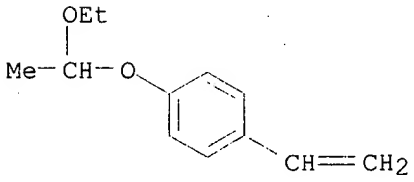


PAGE 1-B



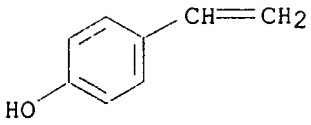
CM 2

CRN 157057-20-0
CMF C12 H16 O2



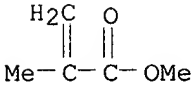
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

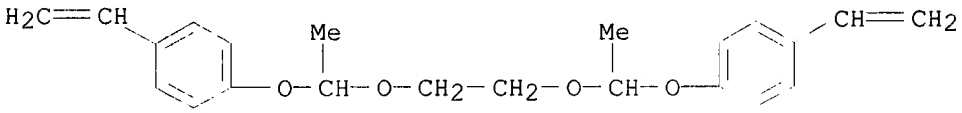
CRN 80-62-6
CMF C5 H8 O2



RN 215319-89-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,2-ethanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 4-ethenylphenol and (4-ethenylphenoxy)trimethylsilane (9CI) (CA INDEX NAME)

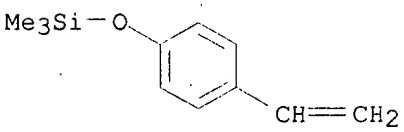
CM 1

CRN 215319-88-3
CMF C22 H26 O4



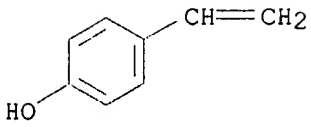
CM 2

CRN 58555-66-1
CMF C11 H16 O Si



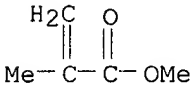
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

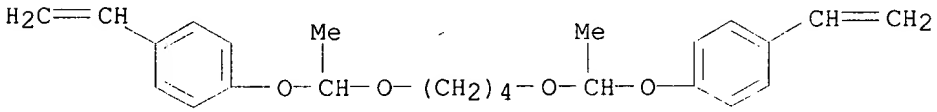
CRN 80-62-6
CMF C5 H8 O2



RN 215319-93-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

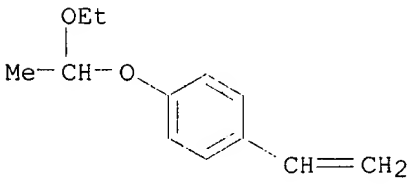
CM 1

CRN 215319-92-9
CMF C24 H30 O4



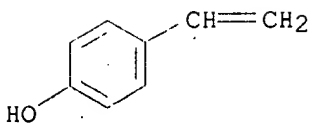
CM 2

CRN 157057-20-0
CMF C12 H16 O2



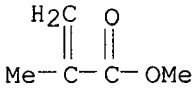
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

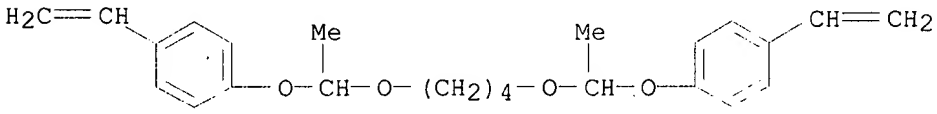
CRN 80-62-6
CMF C5 H8 O2



RN 215319-94-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1,1-dimethylethyl 4-ethenylphenyl carbonate, 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

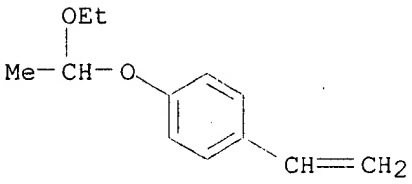
CM 1

CRN 215319-92-9
CMF C24 H30 O4



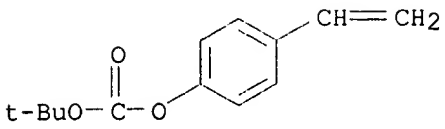
CM 2

CRN 157057-20-0
CMF C12 H16 O2



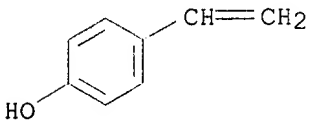
CM 3

CRN 87188-51-0
CMF C13 H16 O3



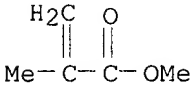
CM 4

CRN 2628-17-3
CMF C8 H8 O



CM 5

CRN 80-62-6
CMF C5 H8 O2

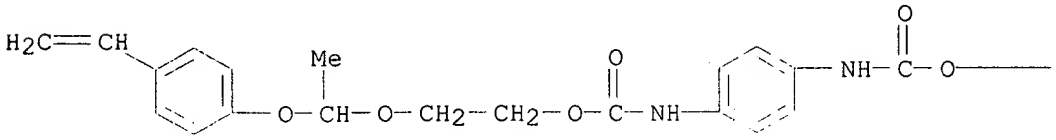


RN 215319-96-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with bis[2-[1-(4-ethenylphenoxy)ethoxy]ethyl] 1,4-phenylenebis[carbamate], 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

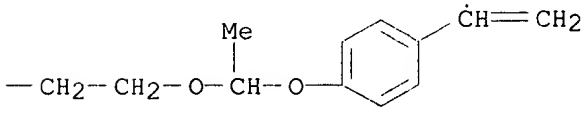
CM 1

CRN 215319-95-2
CMF C32 H36 N2 O8

PAGE 1-A

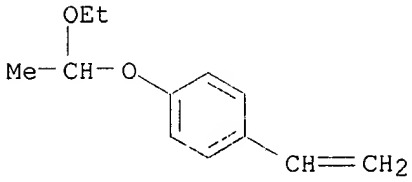


PAGE 1-B



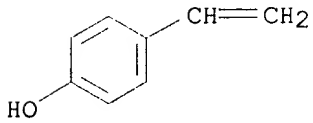
CM 2

CRN 157057-20-0
CMF C12 H16 O2



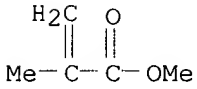
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

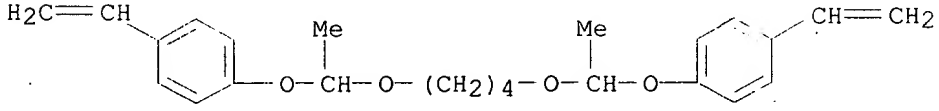
CRN 80-62-6
CMF C5 H8 O2



RN 215320-02-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1,1-dimethylethyl 4-ethenylphenyl carbonate and 4-ethenylphenol (9CI) (CA INDEX NAME)

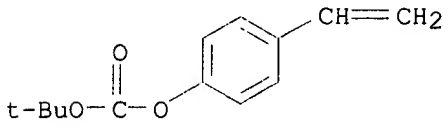
CM 1

CRN 215319-92-9
CMF C24 H30 O4



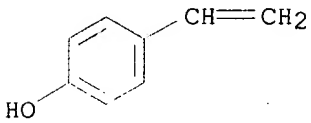
CM 2

CRN 87188-51-0
CMF C13 H16 O3



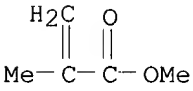
CM 3

CRN 2628-17-3
CMF C8 H8 O



CM 4

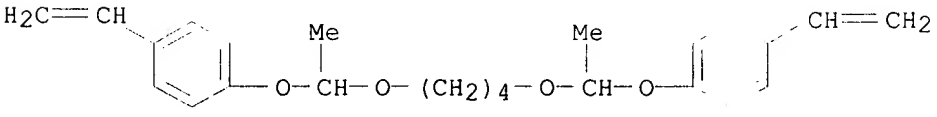
CRN 80-62-6
CMF C5 H8 O2



RN 215320-05-1 HCAPLUS
CN 2-Propenoic acid, methyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1,1-dimethylethyl 4-ethenylphenyl carbonate, 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

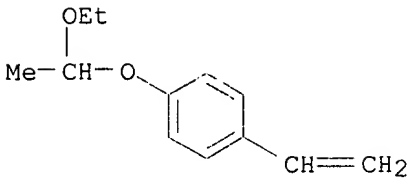
CRN 215319-92-9
CMF C24 H30 O4



CM 2

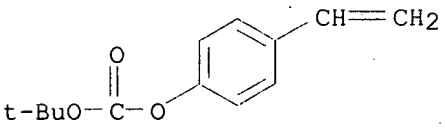
CRN 157057-20-0

CMF C12 H16 O2



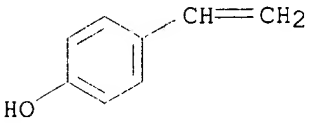
CM 3

CRN 87188-51-0
CMF C13 H16 O3



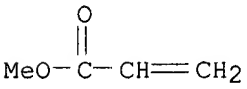
CM 4

CRN 2628-17-3
CMF C8 H8 O



CM 5

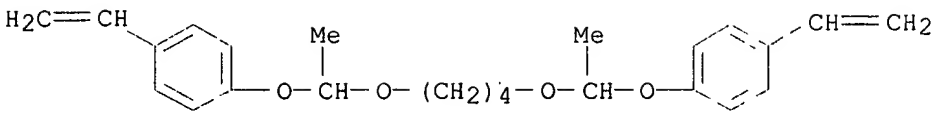
CRN 96-33-3
CMF C4 H6 O2



RN 215320-06-2 HCAPLUS
CN Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], ethenylbenzene, 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

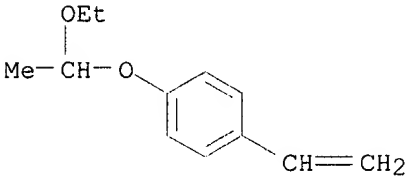
CM 1

CRN 215319-92-9
CMF C24 H30 O4



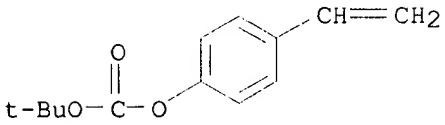
CM 2

CRN 157057-20-0
CMF C12 H16 O2



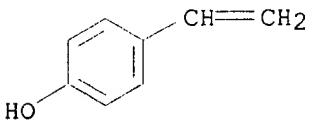
CM 3

CRN 87188-51-0
CMF C13 H16 O3



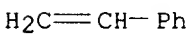
CM 4

CRN 2628-17-3
CMF C8 H8 O



CM 5

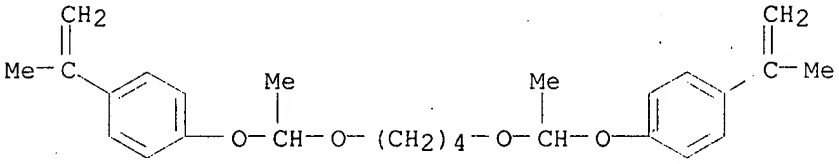
CRN 100-42-5
CMF C8 H8



RN 215320-08-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-ethenylbenzene], 1,1'-[1,4-butanediylbis(oxyethylideneoxy)]bis[4-(1-methylethenyl)benzene], 1,1-dimethylethyl 4-ethenylphenyl carbonate, 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

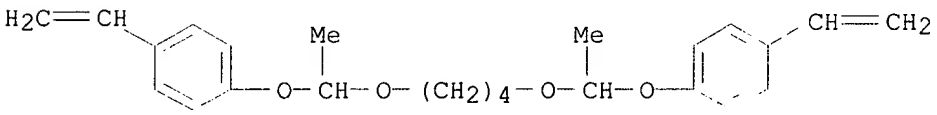
CM 1

CRN 215320-07-3
CMF C26 H34 O4



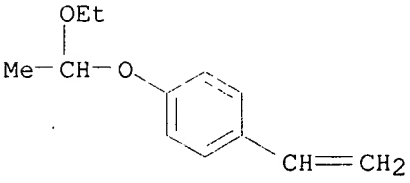
CM 2

CRN 215319-92-9
CMF C24 H30 O4



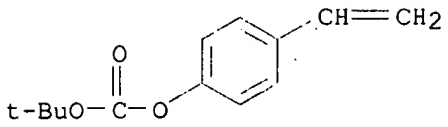
CM 3

CRN 157057-20-0
CMF C12 H16 O2



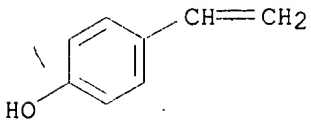
CM 4

CRN 87188-51-0
CMF C13 H16 O3



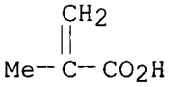
CM 5

CRN 2628-17-3
CMF C8 H8 O



CM 6

CRN 79-41-4
CMF C4 H6 O2

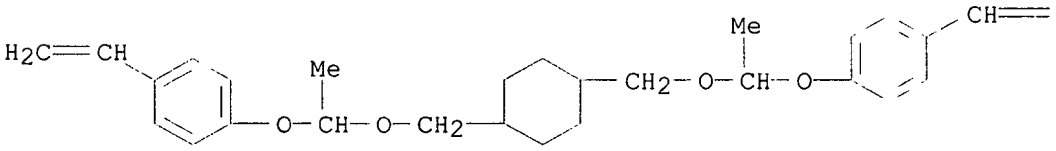


RN 215320-10-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene] and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

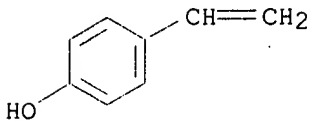
PAGE 1-A



PAGE 1-B

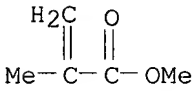
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 80-62-6
CMF C5 H8 O2



L12 ANSWER 30 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:592928 HCAPLUS
DN 129:296068
TI Design and preliminary studies of environmentally enhanced water-castable, water-developable positive tone resists: model and feasibility studies
AU Havard, Jennifer M.; Pasini, Dario; Frechet, Jean M. J.; Medeiros, David; Yamada, Shintaro; Willson, C. Grant
CS Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA
SO ACS Symp. Ser. (1998), 706(Micro- and Nanopatterning Polymers), 262-275
CODEN: ACSMC8; ISSN: 0097-6156
PB American Chemical Society
DT Journal
LA English
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
AB The design of water sol. pos. tone resists has been explored using water-sol. poly(2-isopropenyl-2-oxazoline) as the substrate. The overall chem. amplified design incorporates two successive soly. changes to achieve the desired image tone. The initial change in soly. affecting the entire resist film is achieved during the pre-exposure thermal "bake" step, by addn. of an appropriately designed carboxylic acid modifier to the matrix. If a diacid is used, crosslinking occurs leading to insolubilization. Alternatively, a monocarboxylic acid may be used to insolubilize the poly(oxazoline) film through a simple polarity switch. The second change in soly. affecting only those areas exposed to radiation is achieved by the photogeneration of acid within the polymer film. Upon postexposure baking, the photogenerated acid cleaves the carboxylic acid modifier in a process that restores soly. to the polymer matrix. The prepn. of a variety of carboxylic acid modifiers and the demonstration of the individual steps of the overall process has been accomplished confirming the validity of this general approach to fully water-sol. pos.-tone resists.
ST oxazoline matrix chem amplification photoresist; crosslinker soly modifier chem amplification photoresist
IT Positive photoresists

(chem. amplified; crosslinkers and soly. modifiers for amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT Crosslinking agents
(crosslinkers and soly. modifiers for amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT Solubilizers
(crosslinkers and soly. modifiers for amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline) in relation to)

IT 214149-73-2P 214149-74-3P 214149-75-4P **214149-77-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinker; amplified water-developable pos. tone **photoresists** based on poly(2-isopropenyl-2-oxazoline))

IT 27235-08-1, Poly(2-isopropenyl-2-oxazoline)
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinkers and soly. modifiers for amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT 110844-09-2P 204446-24-2P 214149-72-1P **214149-76-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of crosslinkers for water-developable pos. tone **photoresists** based on poly(2-isopropenyl-2-oxazoline))

IT 71348-41-9P 136023-03-5P 214149-82-3P 214149-83-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of soly. modifier for water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT 214149-84-5P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoacid generator; crosslinkers and soly. modifiers for amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT 180787-54-6
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; crosslinkers and soly. modifiers for amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT 214149-86-7D, reaction product with acid 214149-87-8D, reaction product with acid
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(photoimaging reaction in relation to amplified water-developable pos. tone photoresists)

IT 214149-87-8
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(photoimaging reaction in relation to amplified water-developable pos. tone photoresists)

IT 214149-86-7P
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(photoimaging reaction in relation to amplified water-developable pos. tone photoresists)

IT 214149-85-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(polymn. of)

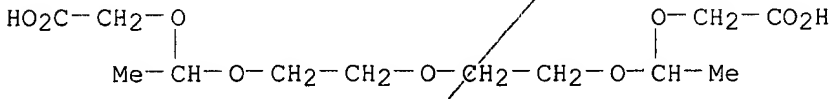
IT 150994-99-3P 195247-72-4P 214149-78-7P 214149-79-8P 214149-80-1P 214149-81-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(soly. modifier; amplified water-developable pos. tone photoresists based on poly(2-isopropenyl-2-oxazoline))

IT **214149-77-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinker; amplified water-developable pos. tone **photoresists** based on poly(2-isopropenyl-2-oxazoline))

RN 214149-77-6 HCAPLUS

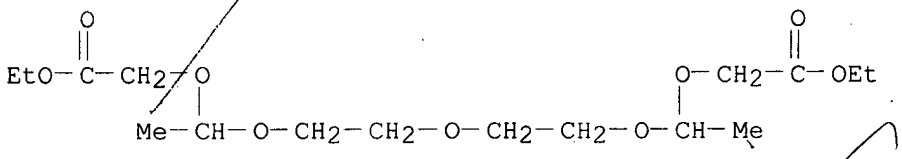
CN 3,5,8,11,13-Pentaoxapentadecanedioic acid, 4,12-dimethyl- (9CI) (CA INDEX NAME)



IT **214149-76-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of crosslinkers for water-developable pos. tone **photoresists** based on poly(2-isopropenyl-2-oxazoline))

RN 214149-76-5 HCAPLUS

CN 3,5,8,11,13-Pentaoxapentadecanedioic acid, 4,12-dimethyl-, diethyl ester (9CI) (CA INDEX NAME)



L12 ANSWER 31 OF 42 HCAPLUS COPYRIGHT 2002 ACS

AN 1998:535423 HCAPLUS

DN 129:154694

TI Chemical-amplification positive photoresist composition

IN Uetani, Yasunori; Fujishima, Hiroaki; Miya, Yoshiko

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW

DT Patent

LA English

IC ICM G03F007-039
ICS G03F007-004

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 856773	A1	19980805	EP 1998-101371	19980127
	EP 856773	B1	20010613		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 10274852	A2	19981013	JP 1998-12406	19980126
PRAI	JP 1997-15353	A	19970129		

AB The present invention provides a chem.-amplification pos. photoresist compn. comprising a resin component and an acid generator, which is superior in various resist performances such as resoln., and is

particularly superior in adhesion to a substrate, the resin component having a butyrolactone residue which may be substituted with an alkyl group and a group capable of cleaving by action of an acid.

ST chem amplification photoresist resin butyrolactone group

IT Photoresists
(chem.-amplification; contg. butyrolactone group-contg. resins)

IT 120-07-0, N-Phenyldiethanolamine 10409-06-0, Diphenyldisulfone 24544-04-5, 2,6-Diisopropylaniline
RL: TEM (Technical or engineered material use); USES (Uses)
(chem.-amplification pos. photoresist compns. contg. butyrolactone group-contg. resins and)

IT 177080-67-0P **181894-81-5P** 195000-66-9P
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and reaction in prepg. butyrolactone group-contg. resins for chem.-amplification pos. **photoresist** compns.)

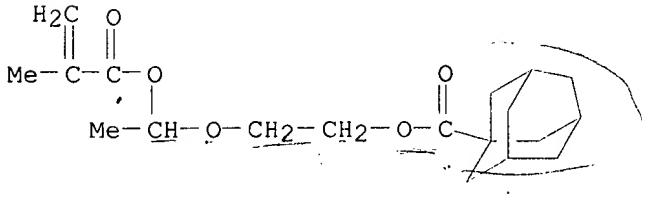
IT 195000-67-0P 210816-40-3P **210816-41-4P 210816-42-5P** 210816-43-6P 210816-44-7P 210816-45-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and use in prepg. chem.-amplification pos. **photoresist** compns.)

IT 79-41-4, Methacrylic acid, reactions 110-86-1, Pyridine, reactions 121-44-8, Triethylamine, reactions 585-07-9, tert-Butyl methacrylate 702-98-7, 2-Methyl-2-adamantanol 920-46-7, Methacrylic chloride 2094-72-6 5061-21-2, .alpha.-Bromo-.gamma.-butyrolactone 7534-94-3, Isobornyl methacrylate 51920-52-6, 1-Ethoxyethyl methacrylate 138554-09-3, 1-Isobutoxyethyl methacrylate
RL: RCT (Reactant); TEM (Technical or engineered material use); USES (Uses)
(reaction in prepg. butyrolactone group-contg. resins for chem.-amplification pos. photoresist compns.)

IT **181894-81-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and reaction in prepg. butyrolactone group-contg. resins for chem.-amplification pos. **photoresist** compns.)

RN 181894-81-5 HCAPLUS

CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



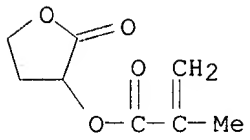
IT **210816-41-4P 210816-42-5P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and use in prepg. chem.-amplification pos. **photoresist** compns.)

RN 210816-41-4 HCAPLUS

CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

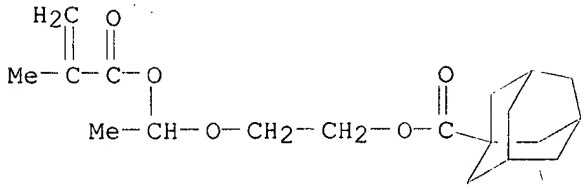
CM 1

CRN 195000-66-9
CMF C8 H10 O4



CM 2

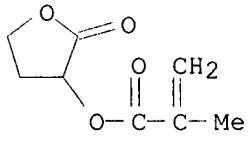
CRN 181894-81-5
CMF C19 H28 O5



RN 210816-42-5 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

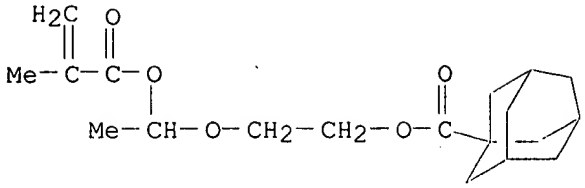
CM 1

CRN 195000-66-9
CMF C8 H10 O4



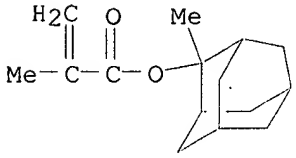
CM 2

CRN 181894-81-5
CMF C19 H28 O5



CM 3

CRN 177080-67-0
CMF C15 H22 O2



L12 ANSWER 32 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:594565 HCAPLUS
DN 127:248875
TI Polymers and photosensitive resin compositions using the same, and high-resolution heat-resistant pattern formation therefrom by far-UV lithography
IN Iwasa, Shigeyuki; Maeda, Katsumi; Nakano, Kaichiro; Hasegawa, Etsuo
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08F220-28
ICS C08F220-06; C08F220-18; C09D133-14; G03F007-039; H01L021-027
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): **74**, 76
FAN.CNT 2

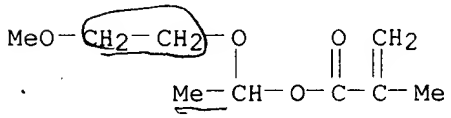
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09221526	A2	19970826	JP 1996-309742	19961120
	JP 2845225	B2	19990113		
	US 5994025	A	19991130	US 1996-763054	19961210
PRAI	JP 1995-322039		19951211		
	JP 1996-309742		19961120		

AB The title polymers are [CH2C(R1)(CO2R2)]x[CH2C(R3)[CO2C(R4)(R5)(OR6)]]y[CH2C(R7)(CO2H)]z (R1, R3, R7 = H, Me; R2 = C7-13 bridged cyclohydrocarbyl; R4 = H, C1-2 hydrocarbyl; R5 = C1-2 hydrocarbyl; R6 = C1-12 hydrocarbyl with or without 1-12 alkoxy or C1-13 acyl substituent; x + y + z = 1; x = 0.1-0.9; yr = 0.1-0.7; z = 0-0.7) with Mw 1000-1,000,000 and used with photochem. acid generators for pattern making with light with wavelength 180-220 nm. Fancryl FA-513A, 1-ethoxyethyl methacrylate, and methacrylic acid were copolymd. in 5:3:2 molar ratio and the resulting copolymer was used with N-hydroxysuccinimide toluenesulfonate with line and space resoln. 0.20 .mu.m at exposure about 30 mJ/cm2.

ST photoresist acrylic far UV lithog
IT Heat-resistant materials
Photoresists
(acrylic polymers and photosensitive resin compns. using the same, and high-resoln. heat-resistant pattern formation therefrom by far-UV lithog.)
IT 182073-92-3P **182073-93-4P 182073-94-5P**
182073-95-6P 182073-96-7P 195816-03-6P 195816-05-8P
195816-07-0P 195816-08-1P **195816-10-5P 195816-12-7P**
195816-14-9P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic polymers and photosensitive resin compns. using the same, and high-resoln. heat-**resistant** pattern formation therefrom by far-UV lithog.)
IT 51920-52-6P, 1-Ethoxyethyl methacrylate 85997-75-7P, 1-Butoxyethyl methacrylate 143556-62-1P, 1-Cyclohexyloxyethyl methacrylate
181894-78-0P, 1-(2-Methoxyethoxy)ethyl methacrylate
181894-79-1P 181894-80-4P 181894-81-5P
195816-04-7P 195816-06-9P **195816-09-2P**, 1-(2-Ethoxyethoxy)ethyl methacrylate **195816-11-6P**,
1-(2-Butoxyethoxy)ethyl methacrylate **195816-13-8P**,
1-(2-Butyryloxyethoxy)ethyl methacrylate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(acrylic polymers and photosensitive resin compns. using the same, and high-resoln. heat-**resistant** pattern formation therefrom by far-UV lithog.)
IT 79-41-4, reactions 109-92-2 110-75-8, 2-Chloroethyl vinyl ether 111-34-2 929-62-4, Octyl vinyl ether 1663-35-0, 2-Methoxyethyl vinyl ether 2182-55-0 7319-16-6, Methyl propenyl ether
RL: RCT (Reactant)
(acrylic polymers and photosensitive resin compns. using the same, and high-resoln. heat-resistant pattern formation therefrom by far-UV lithog.)
IT **182073-93-4P 182073-94-5P 182073-95-6P**
182073-96-7P 195816-10-5P 195816-12-7P
195816-14-9P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic polymers and photosensitive resin compns. using the same, and high-resoln. heat-**resistant** pattern formation therefrom by far-UV lithog.)
RN 182073-93-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

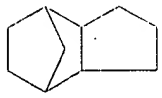
CM 1

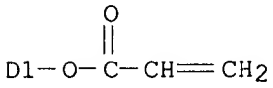
CRN 181894-78-0
CMF C9 H16 O4



CM 2

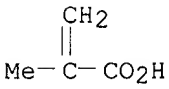
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

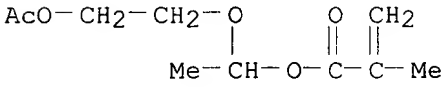
CRN 79-41-4
CMF C4 H6 O2



RN 182073-94-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-[2-(acetyloxy)ethoxy]ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

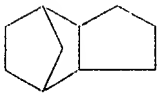
CM 1

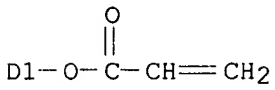
CRN 181894-79-1
CMF C10 H16 O5



CM 2

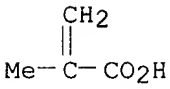
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

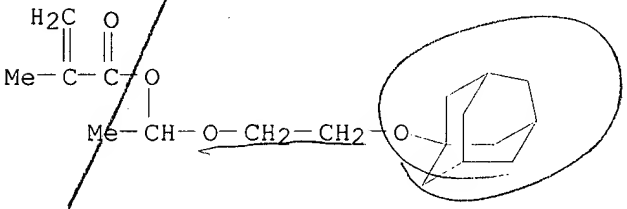
CRN 79-41-4
CMF C4 H6 O2



RN 182073-95-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with octahydro-4,7-methano-1H-indenyl 2-propenoate and 1-[2-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethoxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

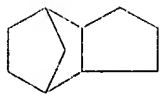
CM 1

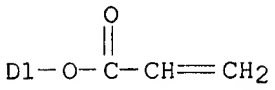
CRN 181894-80-4
CMF C18 H28 O4



CM 2

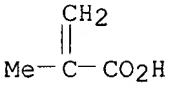
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

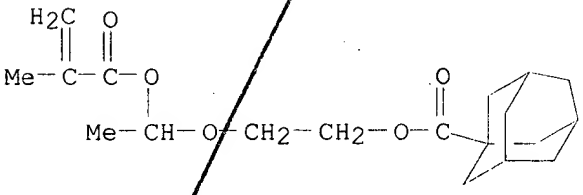
CRN 79-41-4
CMF C4 H6 O2



RN 182073-96-7 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2-methyl-2-propenoic acid and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

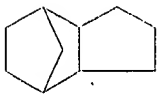
CM 1

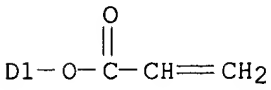
CRN 181894-81-5
CMF C19 H28 O5



CM 2

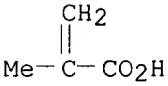
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

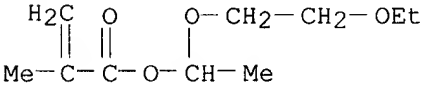
CRN 79-41-4
CMF C4 H6 O2



RN 195816-10-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-(2-ethoxyethoxy)ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

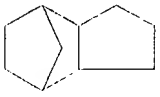
CM 1

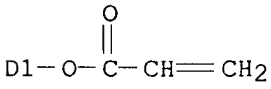
CRN 195816-09-2
CMF C10 H18 O4



CM 2

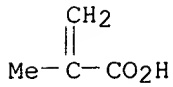
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

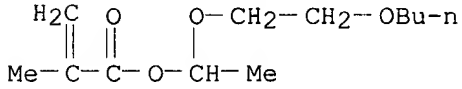
CRN 79-41-4
CMF C4 H6 O2



RN 195816-12-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-(2-butoxyethoxy)ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

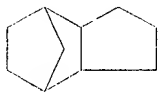
CM 1

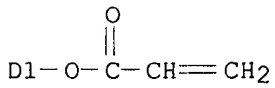
CRN 195816-11-6
CMF C12 H22 O4



CM 2

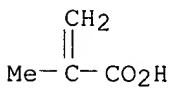
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

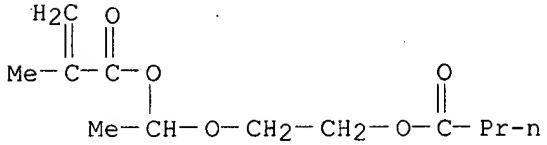
CRN 79-41-4
CMF C4 H6 O2



RN 195816-14-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl butanoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

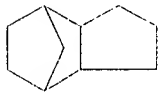
CM 1

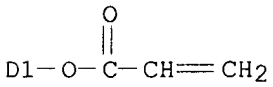
CRN 195816-13-8
CMF C12 H20 O5



CM 2

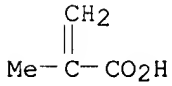
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





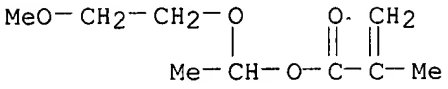
CM 3

CRN 79-41-4
CMF C4 H6 O2

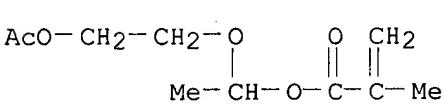


IT **181894-78-0P**, 1-(2-Methoxyethoxy)ethyl methacrylate
181894-79-1P 181894-80-4P 181894-81-5P
195816-09-2P, 1-(2-Ethoxyethoxy)ethyl methacrylate
195816-11-6P, 1-(2-Butoxyethoxy)ethyl methacrylate
195816-13-8P, 1-(2-Butyryloxyethoxy)ethyl methacrylate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(acrylic polymers and photosensitive resin compns. using the same, and high-resoln. heat-**resistant** pattern formation therefrom by far-UV lithog.)
RN 181894-78-0 HCAPLUS

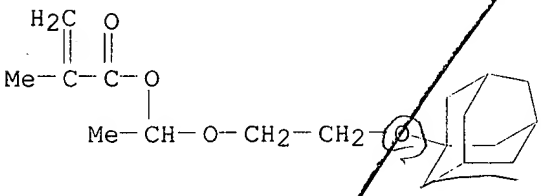
CN 2-Propenoic acid, 2-methyl-, 1-(2-methoxyethoxy)ethyl ester (9CI) (CA INDEX NAME)



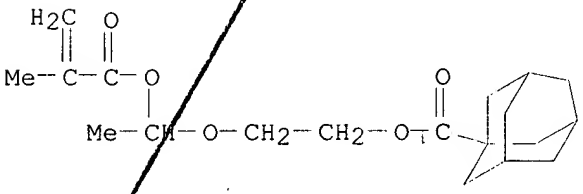
RN 181894-79-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[2-(acetyloxy)ethoxy]ethyl ester (9CI) (CA INDEX NAME)



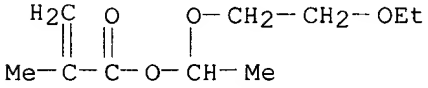
RN 181894-80-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[2-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethoxy]ethyl ester (9CI) (CA INDEX NAME)



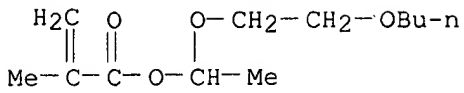
RN 181894-81-5 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



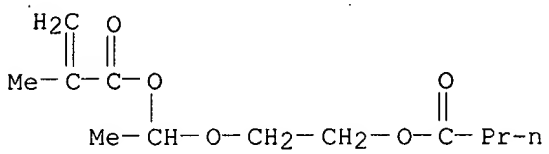
RN 195816-09-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(2-ethoxyethoxy)ethyl ester (9CI) (CA INDEX NAME)



RN 195816-11-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(2-butoxyethoxy)ethyl ester (9CI) (CA INDEX NAME)



RN 195816-13-8 HCAPLUS
CN Butanoic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



L12 ANSWER 33 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:594564 HCAPLUS
DN 127:263605
TI Acid-derived compounds, polymers therefrom, photosensitive resin compositions containing the same, and high-resolution pattern forming using the same with good heat resistance
IN Iwasa, Shigeyuki; Maeda, Katsumi; Nakano, Kaichiro; Hasegawa, Etsuo
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08F020-28
ICS C07C062-38; C07C069-73; C09D133-14; G03F007-004; G03F007-029; G03F007-033; G03F007-039; H01L021-027
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): **74**, 76
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09221519	A2	19970826	JP 1996-234228	19960904
	JP 2907144	B2	19990621		
	US 5770346	A	19980623	US 1996-763055	19961210
	US 5985522	A	19991116	US 1997-947100	19971008
PRAI	JP 1995-322039		19951211		
	JP 1996-234228		19960904		
	US 1996-763055		19961210		

AB The title (meth)acrylic compds. have the general formula CH2:CR1CO2R2CO2CR3R4(OR5) (I; R1 = H, Me; R2 = C7-13 divalent cyclic hydrocarbon group; R3 = H, C1-2 hydrocarbyl; R4 = C1-2 hydrocarbyl; R4 = C1-12 hydrocarbyl with or without C1-12 alkoxy or C1-13 acyl substituent), and the title polymers contain I as comonomer. Tricyclo[5.2.1.02,6]decane-4,8-dimethanol monomethacrylate was prepd., oxidized, and copolymd. in 70:30 ratio with its 1-ethoxyethyl ester. A resist comprising the above copolymer 0.990, N-hydroxysucciniminotosylate 0.010, and propylene glycol Me ether acetate 4 g formed patterns of 0.15 .mu.m line and space resoln. at exposure about 8.8 mJ/cm2.
ST carboxytricyclodecylmethyl methacrylate polymer photoresist
IT Resists
(acid-derived compds., polymers therefrom, photosensitive resin compns.

contg. the same, and high-resoln. pattern forming using the same with good heat resistance)

IT 184856-65-3P 195992-75-7P 195992-76-8P **195992-77-9P** **195992-78-0P** **195992-79-1P** 196108-74-4P 196108-75-5P **196108-76-6P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-derived compds., polymers therefrom, photosensitive resin compns. contg. the same, and high-resoln. pattern forming using the same with good heat **resistance**)

IT 154970-45-3P 184856-60-8P 184856-61-9P 188136-21-2P, Tricyclo[5.2.1.02,6]decane-4,8-dimethanol monomethacrylate 195398-50-6P 195398-52-8P 195824-92-1P 195891-99-7P 195892-00-3P **195892-01-4P** 195892-02-5P 195892-03-6P **195892-04-7P** **195892-05-8P** **195892-06-9P** **195892-07-0P** 195892-08-1P 195892-09-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(acid-derived compds., polymers therefrom, photosensitive resin compns. contg. the same, and high-resoln. pattern forming using the same with good heat **resistance**)

IT 77-73-6 109-92-2 111-34-2 542-92-7, Cyclopentadiene, reactions 585-07-9 920-46-7, Methacryloyl chloride 1663-35-0, 2-Methoxyethyl vinyl ether 1663-39-4, tert-Butyl acrylate 2182-55-0 6026-79-5, 2-Acetoxyethyl vinyl ether 28132-01-6 195824-93-2
RL: RCT (Reactant)
(acid-derived compds., polymers therefrom, photosensitive resin compns. contg. the same, and high-resoln. pattern forming using the same with good heat resistance)

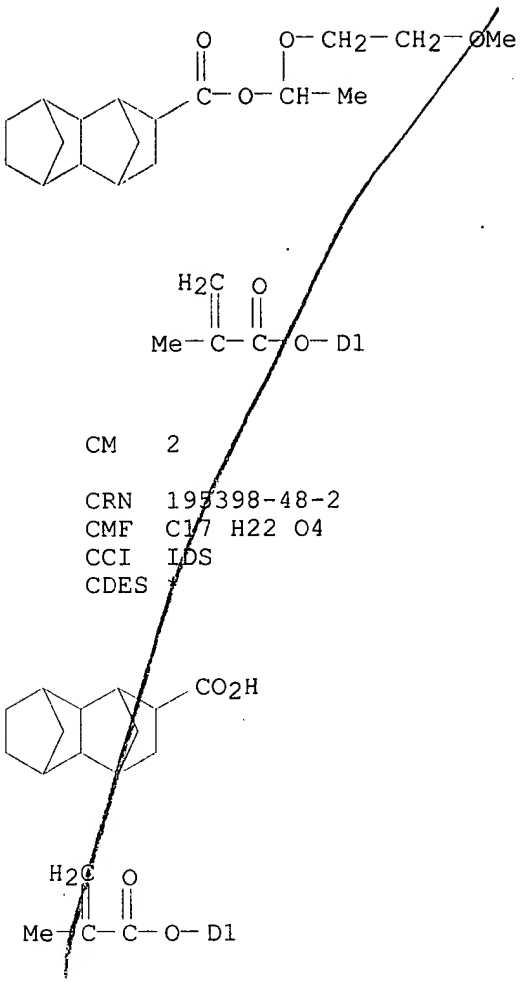
IT 184856-56-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(monomer; acid-derived compds., polymers therefrom, photosensitive resin compns. contg. the same, and high-resoln. pattern forming using the same with good heat resistance)

IT **195992-77-9P** **195992-78-0P** **195992-79-1P** **196108-76-6P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-derived compds., polymers therefrom, photosensitive resin compns. contg. the same, and high-resoln. pattern forming using the same with good heat **resistance**)

RN 195992-77-9 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-(2-methoxyethoxy)ethyl decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-1,4:5,8-dimethanonaphthalene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 195892-04-7
CMF C22 H32 O6
CCI IDS
CDES *



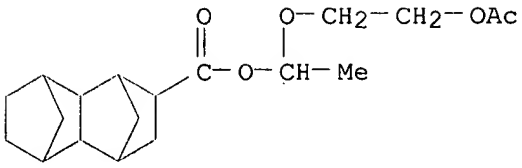
CM 2

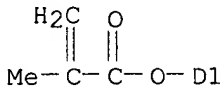
CRN 195398-48-2
CMF C17 H22 O4
CCI IDS
CDES *

RN 195992-78-0 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[2-(acetyloxy)ethoxy]ethyl decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-1,4:5,8-dimethanonaphthalene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

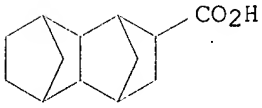
CRN 195892-05-8
CMF C23 H32 O7
CCI IDS
CDES *

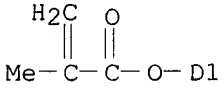




CM 2

CRN 195398-48-2
CMF C17 H22 O4
CCI IDS
CDES *

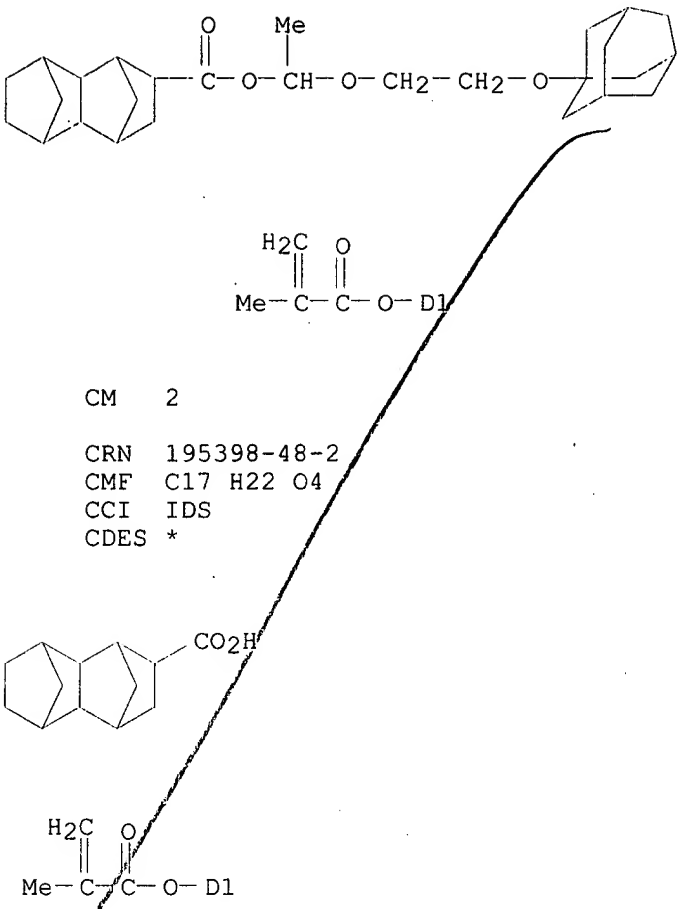




RN 195992-79-1 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[2-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethoxy]ethyl decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-1,4:5,8-dimethanonaphthalene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 195892-06-9
CMF C31 H44 O6
CCI IDS
CDES *



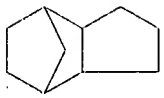
CM 2

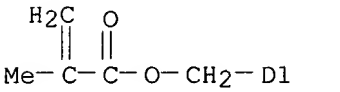
CRN 195398-48-2
CMF C17 H22 O4
CCI IDS
CDES *

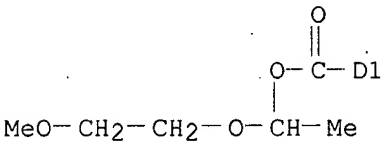
RN 196108-76-6 HCAPLUS
CN 4,7-Methano-1H-indenecarboxylic acid, octahydro[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-, polymer with 1-(2-methoxyethoxy)ethyl octahydro[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-4,7-methano-1H-indenecarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 195892-01-4
CMF C21 H32 O6
CCI IDS
CDES *

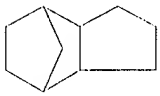




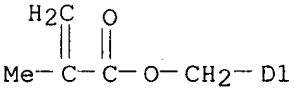


CM 2

CRN 184856-56-2
CMF C16 H22 O4
CCI IDS
CDES *

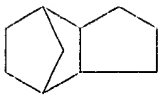


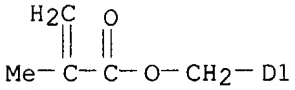
D1—CO_2H

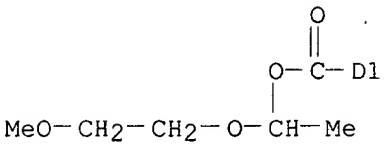


IT **195892-01-4P 195892-04-7P 195892-05-8P**
195892-06-9P 195892-07-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(acid-derived compds., polymers therefrom, photosensitive resin compns. contg. the same, and high-resoln. pattern forming using the same with good heat **resistance**)

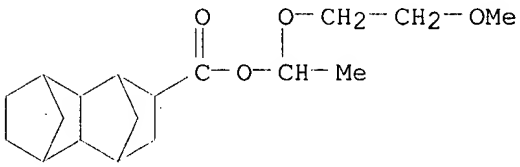
RN 195892-01-4 HCAPLUS
CN 4,7-Methano-1H-indenecarboxylic acid, octahydro-2(or 5)-[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-, 1-(2-methoxyethoxy)ethyl ester (9CI) (CA INDEX NAME)

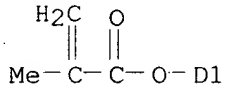




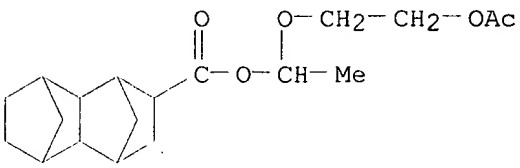


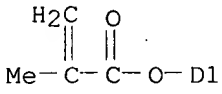
RN 195892-04-7 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-(2-methoxyethoxy)ethyl ester (9CI) (CA INDEX NAME)



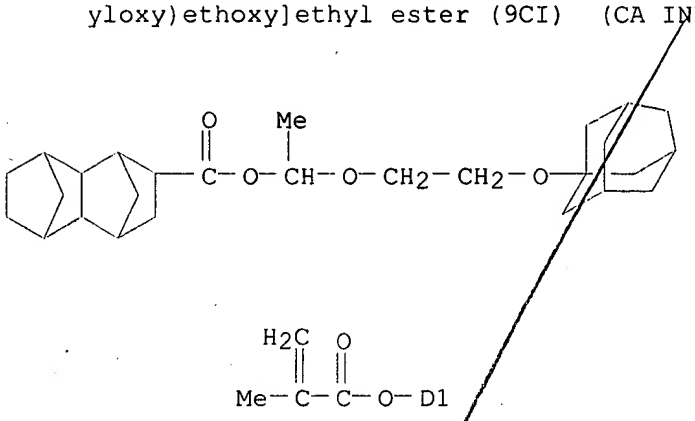


RN 195892-05-8 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-[2-(acetyloxy)ethoxy]ethyl ester (9CI) (CA INDEX NAME)

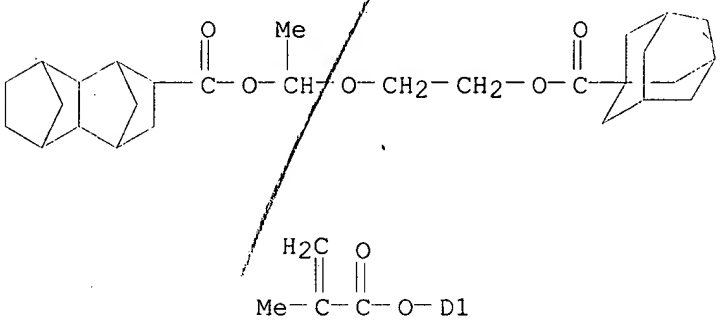




RN 195892-06-9 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-[2-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethoxy]ethyl ester (9CI) (CA INDEX NAME)



RN 195892-07-0 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-[2-[(tricyclo[3.3.1.13,7]dec-1-ylcarbonyl)oxy]ethoxy]ethyl ester (9CI) (CA INDEX NAME)



L12 ANSWER 34 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:522770 HCAPLUS
DN 127:255182
TI Effect of polymer structure on dissolution rate characteristics in carboxylated alicyclic polymers for 193 - nm lithography
AU Iwasa, Shigeyuki; maeda, Katsumi; Nakano, Kaichiro; Hasegawa, Etsuo
CS Functional Devices Res. Labs., NEC Corp., Kanagawa, 216, Japan
SO Proc. SPIE-Int. Soc. Opt. Eng. (1997), 3049(Advances in Resist Technology and Processing XIV), 126-134
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 36, 76
AB We characterize the effect of structure on the dissoln. rate and adhesion of poly(carboxy-tricyclodecylmethyl methacrylate) which is the base polymer for ArF excimer laser lithog. The adhesion of the polymer decreases with an increase in the protection ratio, and 60% tert-Bu protection causes stripping and collapse of the pattern in 2.38%

tetramethylammonium hydroxide (TMAH) developer. We synthesize novel protection groups: menthyl derivs. and a hydroxy-tricyclodecyl (meth)acrylate (TCD(M)AOH) unit, and confirm their improved adhesion and dissoln. inhibiting effects in the 2.38% TMAH developer. We obtain a 0.35.mu.m pattern using a resist based on a terpolymer contg. TCDAOH and the std. developer.

ST polymer structure dissoln adhesion photoresist photolithog

IT Adhesion (physical)
Dissolution rate
Molecular structure-property relationship
Photolithography
Photoresists
(effect of polymer structure on dissoln. rate and adhesion of carboxylated alicyclic polymers for photoresists in photolithog.)

IT Work of adhesion
(surface tensions of water and methylene iodide in calcn. of polymers' work of adhesion on Si substrate for lithog.)

IT 75-59-2, Tetramethylammonium hydroxide
RL: TEM (Technical or engineered material use); USES (Uses)
(developer; effect of polymer structure on dissoln. rate and adhesion of carboxylated alicyclic polymers for photoresists in photolithog.)

IT 184856-64-2 184856-65-3 184856-66-4 195131-25-0 195391-87-8
195539-70-9 195539-72-1 195539-74-3 195539-76-5 195539-77-6
195539-79-8 195539-81-2 195539-84-5 195539-87-8
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(effect of polymer structure on dissoln. rate and adhesion of carboxylated alicyclic polymers for **photoresists** in photolithog.)

IT 60-29-7, Diethyl ether, properties 75-28-5 111-15-9, 1-Acetoxy-2-ethoxyethane . 142-68-7, Tetrahydropyran
RL: PRP (Properties)
(model compd.; effect of polymer structure on dissoln. rate and adhesion of carboxylated alicyclic polymers for photoresists in photolithog.)

IT 55048-39-0 66003-78-9, Triphenylsulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; effect of polymer structure on dissoln. rate and adhesion of carboxylated alicyclic polymers for photoresists in photolithog.)

IT 75-11-6, Methylene iodide 7732-18-5, Water, properties
RL: PRP (Properties)
(surface tensions of water and methylene iodide in calcn. of polymers' work of adhesion on Si substrate for lithog.)

IT **195539-79-8**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(effect of polymer structure on dissoln. rate and adhesion of carboxylated alicyclic polymers for **photoresists** in photolithog.)

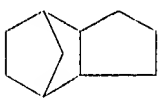
RN 195539-79-8 HCAPLUS

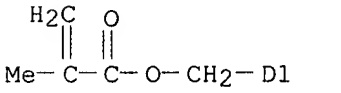
CN 4,7-Methano-1H-indenecarboxylic acid, octahydro[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-, polymer with 1-[2-(acetyloxy)ethoxy]ethyl octahydro[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-4,7-methano-1H-indenecarboxylate (9CI) (CA INDEX NAME)

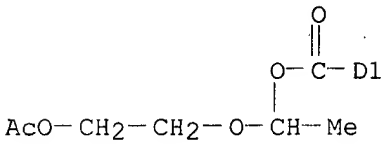
CM 1

CRN 195539-78-7
CMF C22 H32 O7

CCI IDS
CDES 8:ID,RING

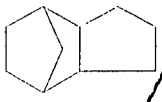


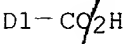


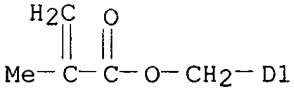


CM 2

CRN 184856-56-2
CMF C16 H22 O4
CCI IDS
CDES *





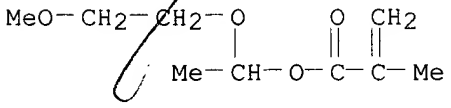


L12 ANSWER 35 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:444773 HCAPLUS
DN 125:288557
TI Design and characterization of alicyclic polymers with alkoxyethyl protecting groups for ArF chemically amplified resists
AU Iwasa, Shigeyuki; Maeda, Katsumi; Nakano, Kaichiro; Ohfuji, Takeshi; Hasegawa, Etsuo
CS Functional Devices Res. Lab., NEC Corp., Kawasaki, 216, Japan
SO J. Photopolym. Sci. Technol. (1996), 9(3), 447-456
CODEN: JSTEEW; ISSN: 0914-9244
DT Journal

LA English
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
AB We have developed new alkoxyethyl protecting groups for ArF chem. amplified pos. resists. The developed groups show excellent performances in thermal stability, deprotection reaction efficiency, and dissoln. contrast. Moreover, we find that the dissoln. rates of polymers protected with these groups can be characterized by the polarity and mol. vol. of the groups. ArF contact printing expts. also confirm that chem. amplified resists with these groups have good resoln. capabilities. Thus the new alkoxy-Et groups are shown to have excellent performances as protecting groups for ArF chem. amplified resists.
ST lithog chem amplified photoresist methacrylate polymer
IT Infrared spectra
Solution rate
Thermal decomposition
(lithog. characterization of alicyclic polymers with alkoxyethyl protecting groups as chem. amplified photoresists)
IT Resists
(photo-, pos.-working, chem. amplified; lithog. characterization of alicyclic polymers with alkoxyethyl protecting groups as)
IT 75-59-2, Tetramethylammonium hydroxide
RL: NUU (Other use, unclassified); USES (Uses)
(developer; lithog. characterization of alicyclic polymers with alkoxyethyl protecting groups as chem. amplified photoresists)
IT 55048-39-0 66003-78-9, Triphenylsulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(lithog. characterization of alicyclic polymers with alkoxyethyl protecting groups as chem. amplified photoresists)
IT 171439-99-9 181894-84-8 182073-92-3 **182073-93-4**
182073-94-5 182073-95-6 182073-96-7
182073-97-8 182073-98-9 182073-99-0 182074-00-6 182208-95-3
RL: TEM (Technical or engineered material use); USES (Uses)
(lithog. chem. amplified **photoresists** for excimer laser exposures based on alicyclic polymers with alkoxyethyl protecting groups)
IT **182073-93-4 182073-94-5 182073-95-6**
182073-96-7
RL: TEM (Technical or engineered material use); USES (Uses)
(lithog. chem. amplified **photoresists** for excimer laser exposures based on alicyclic polymers with alkoxyethyl protecting groups)
RN 182073-93-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

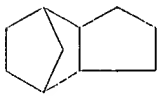
CM 1

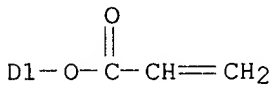
CRN 181894-78-0
CMF C9 H16 O4



CM 2

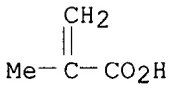
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

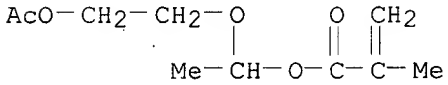
CRN 79-41-4
CMF C4 H6 O2



RN 182073-94-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-[2-(acetyloxy)ethoxy]ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

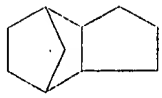
CM 1

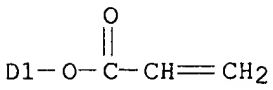
CRN 181894-79-1
CMF C10 H16 O5



CM 2

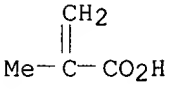
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

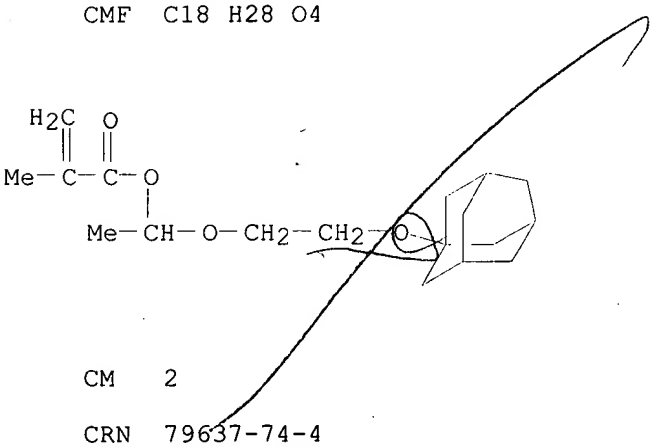
CRN 79-41-4
CMF C4 H6 O2



RN 182073-95-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with octahydro-4,7-methano-1H-indenyl 2-propenoate and 1-[2-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethoxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

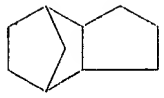
CM 1

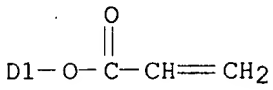
CRN 181894-80-4
CMF C18 H28 O4



CM 2

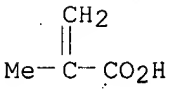
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

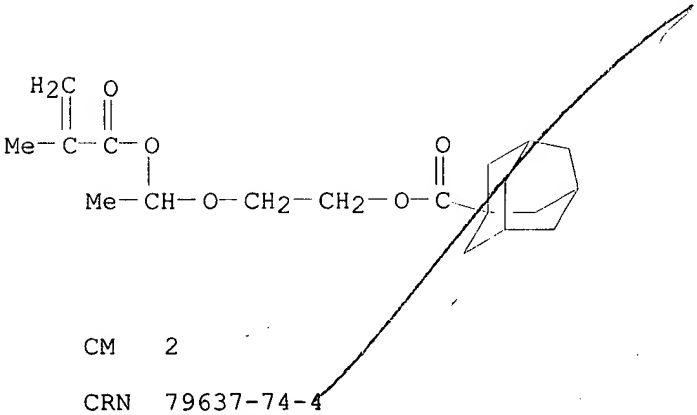
CRN 79-41-4
CMF C4 H6 O2



RN 182073-96-7 HCAPLUS
CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with 2-methyl-2-propenoic acid and octahydro-4,7-methano-1H-indenyl 2-propenoate (9CI) (CA INDEX NAME)

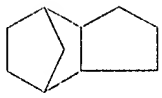
CM 1

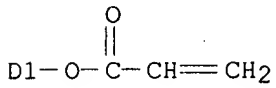
CRN 181894-81-5
CMF C19 H28 O5



CM 2

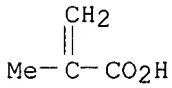
CRN 79637-74-4
CMF C13 H18 O2
CCI IDS
CDES 8:ID





CM 3

CRN 79-41-4
CMF C4 H6 O2



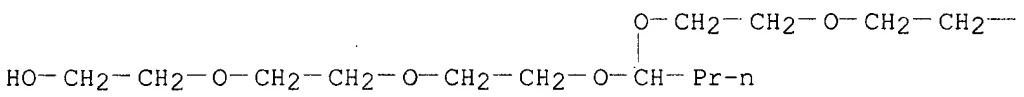
L12 ANSWER 36 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:666888 HCAPLUS
DN 115:266888
TI Photoresist compositions for fine patterning
IN Oie, Masayuki; Kawada, Masaji; Yamada, Takamasa
PA Nippon Zeon Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-022
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 03107160	A2	19910507	JP 1989-243924	19890920
JP 2571130	B2	19970116		

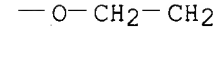
AB The title compns. contain (a) alkali-sol. hydrogenated phenolic resins, (b) acid-releasing compds. activated irradn., and (c) dissoln. inhibitor with acid-degradable groups. These compns. suitable for patterning using short-wavelength radiation provide excellent performance for fine patterning. Thus, a soln. contg. m-cresol novolak hydrogenated using Raney Ni 100, 2,4-bis(trichloromethyl)-6-phenyl-s-triazine 2, tetrabromobisphenol A diacetate 23, and F-contg. surfactant 0.01 parts in Et 2-methoxypropionate was applied on Si wafer and prebaked to form a 1.0-.mu.m-thick resist layer. Exposure to far UV and development with 2.38% Me4NOH gave pos. high-contrast pattern with 0.99-.mu.m thickness.
ST radiation resist pos working; photoresist hydrogenated phenolic resin; acid generator pos working photoresist
IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(hydrogenated, pos.-working photoresists contg., for short-wavelength radiations)

IT Resists
(radiation-sensitive, pos.-working, for short-wavelength radiations, hydrogenated phenolic resins contained in)
IT 24504-22-1 31350-61-5 61358-25-6 114747-43-2
RL: USES (Uses)
(photo-activated acid generator, pos.-working photoresists contg.)
IT 102-52-3 28313-42-0 122907-86-2 137427-98-6 **137427-99-7** 137428-00-3
RL: USES (Uses)
(photo-decompd. dissoln. inhibitor, pos.-working **photoresists** contg.)
IT 25086-36-6D, m-Cresol-formaldehyde copolymer, hydrogenated 38333-84-5D, hydrogenated 59269-51-1D, Poly(vinylphenol), hydrogenated
RL: USES (Uses)
(pos.-working photoresists contg., for short-wavelength radiations)
IT **137427-99-7**
RL: USES (Uses)
(photo-decompd. dissoln. inhibitor, pos.-working **photoresists** contg.)
RN 137427-99-7 HCAPLUS
CN 3,6,9,11,14,17-Hexaoxanonadecane-1,19-diol, 10-propyl- (9CI) (CA INDEX NAME)

PAGE 1-A



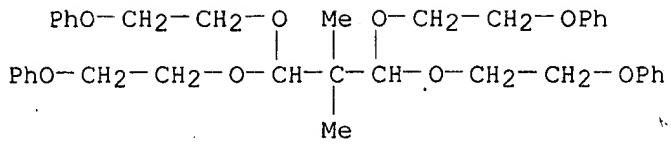
PAGE 1-B



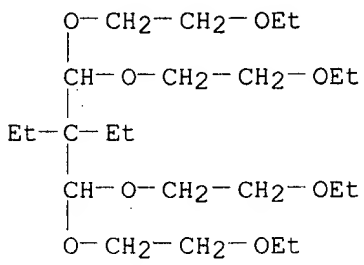
L12 ANSWER 37 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:506470 HCAPLUS
DN 113:106470
TI Positive-working radiation-sensitive mixtures
IN Ruckert, Hans
PA Hoechst A.-G., Fed. Rep. Ger.
SO Ger. Offen., 9 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM G03F007-004
ICS G03F007-039; H01L021-312
ICA G03F007-32; B41N001-00; C07C043-303
CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 3827901	A1	19900222	DE 1988-3827901	19880817
US 4983501	A	19910108	US 1989-388817	19890803
EP 355581	A2	19900228	EP 1989-114701	19890809
EP 355581	A3	19910130		

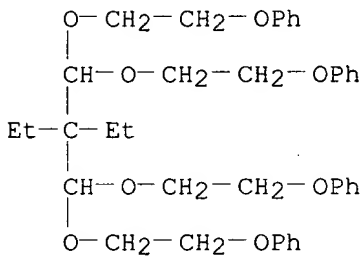
R: AT, BE, CH, DE, FR, GB, IT, LI, NL
JP 02118645 A2 19900502 JP 1989-212013 19890817
PRAI DE 1988-3827901 19880817
OS MARPAT 113:106470
AB Pos-working radiation-sensitive mixts. for the prodn. of resist patterns and printing plates having a high flexibility with a good developer resistance are composed of a compd. forming a strong acid upon irradn., a compd. with .gtoreq.1 acid-cleavable C-O-C, such as an acetal of the structure (RO)2CHCH1R2CH(OR)2 (R = optionally substituted alkyl; R1, R2 = C1-6 alkyl). Thus, a compn. for prepg. an offset printing plate having sharp image reprodn. and excellent ink receptivity contained a cresol-HCHO polymer, a tetraacetal from methylethylmalondialdehyde tetramethylacetal, 2-(4,7-dimethoxy-1-naphthyl)-4,6-bis(trichloromethyl)-s-triazine, 4-dimethylaminoazobenzene, and 1-methoxy-2-propyl acetate.
ST pos radiation sensitive compn printing plate; photoresist pos radiation sensitive compn; acetal pos radiation sensitive compn; acid pos radiation sensitive compn
IT Acetals
RL: USES (Uses)
(pos.-working radiation-sensitive compns. contg. acid-forming compds. and, for photoresists and printing plate prodn.)
IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(novolak, pos.-working radiation-sensitive compns. contg. acetals and acid-forming compds. and, for photoresists and printing plate prodn.)
IT Lithographic plates
(offset, pos.-working, radiation-sensitive compns. contg. acid-forming compds. and acetals for prodn. of)
IT Resists
(photo-, pos.-working, radiation-sensitive compns. contg. acid-forming compds. and acetals for)
IT Photoimaging compositions and processes
(relief, pos.-working, contg. acetals and acid-forming compds.)
IT 60-11-7, 4-Dimethylaminoazobenzene 467-63-0, Crystal violet base 1328-54-7, Zapon fast blue HFL 9003-09-2 9003-32-1, Plexisol B 574 9016-83-5, Cresol-formaldehyde copolymer 17354-14-2
RL: USES (Uses)
(pos.-working radiation-sensitive compns. contg. acetals and acid-forming compds. and, for photoresists and printing plate prodn.)
IT 38686-70-3 69432-42-4 82721-52-6 129024-84-6
RL: USES (Uses)
(pos.-working radiation-sensitive compns. contg. acetals and, for photoresists and printing plate prodn.)
IT 129024-79-9P
RL: PREP (Preparation)
(prepn. and pos.-working photosensitive compns. contg., for offset printing plate fabrication)
IT **129024-78-8P 129024-80-2P** 129024-81-3P **129024-82-4P 129024-83-5P**
RL: PREP (Preparation)
(prepn. and pos.-working photosensitive compns. contg., for **photoresists**)
IT **129024-78-8P 129024-80-2P 129024-82-4P 129024-83-5P**
RL: PREP (Preparation)
(prepn. and pos.-working photosensitive compns. contg., for **photoresists**)
RN 129024-78-8 HCAPLUS
CN Benzene, 1,1',1'',1'''-[(2,2-dimethyl-1,3-propanediylidene)tetrakis(oxy-2,1-ethanediyloxy)]tetrakis- (9CI) (CA INDEX NAME)



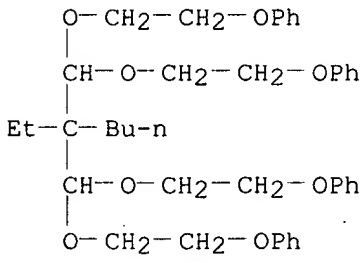
RN 129024-80-2 HCAPLUS
CN 3,6,10,13-Tetraoxapentadecane, 7,9-bis(2-ethoxyethoxy)-8,8-diethyl- (9CI) (CA INDEX NAME)



RN 129024-82-4 HCAPLUS
CN Benzene, 1,1',1'',1'''-[(2,2-diethyl-1,3-propanediylidene)tetrakis(oxy-2,1-ethanediyloxy)]tetrakis- (9CI) (CA INDEX NAME)



RN 129024-83-5 HCAPLUS
CN Benzene, 1,1',1'',1'''-[(2-butyl-2-ethyl-1,3-propanediylidene)tetrakis(oxy-2,1-ethanediyloxy)]tetrakis- (9CI) (CA INDEX NAME)

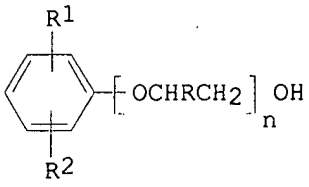


L12 ANSWER 38 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:544125 HCAPLUS

DN 111:144125
TI Positive-working radiation-sensitive mixture and radiation-sensitive recording material therefrom
IN Doessel, Karl Friedrich; Dammel, Ralph; Lingnau, Juergen
PA Hoechst A.-G., Fed. Rep. Ger.
SO Ger. Offen., 9 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM H01L021-30
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3730787	A1	19890323	DE 1987-3730787	19870913
	EP 315748	A2	19890517	EP 1988-114590	19880907
	EP 315748	A3	19910731		
	EP 315748	B1	19951220		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	JP 01106041	A2	19890424	JP 1988-227656	19880913
	US 4946759	A	19900807	US 1988-243792	19880913
PRAI	DE 1987-3730787		19870913		

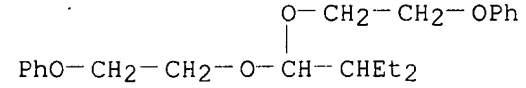
OS MARPAT 111:144125
GI



I

AB Pos.-working radiation-sensitive compns. for use in prepg. recording materials having a wide processing latitude and giving high-resoln. structures with different developers, and which show no change in development characteristics upon setting for different periods of time between exposure and development, contain a compd. that forms an acid under the effects of high-energy radiation and an acid-cleavable compd. that gives a cleavage product of the formula I (R = H or alkyl; R1,Ri = H, OH, halogen, CN, NO2, alkyl, aryl, arylcarbonyl, alkylcarbonyl, or together for a ring; n = 1-3). An adhesive agent-coated Si wafer was coated with a soln. contg. a cresol-HCHO novolak, benzaldehyde diphenoxy ethylacetal, tetrabromoBisphenol A, and propylene glycol Me ether acetate, dried, imagewise exposed with x-ray synchrotron radiation through a Au-on-Si mark, and then developed to give a fault-free image with all the details of the mask.
ST pos x ray resist acetal
IT Lithographic plates
(pos.-working photosensitive compns. contg. acid-forming compd. and acid-cleavable compd. for fabrication of)
IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(pos.-working x-ray resists contg. acetal and)
IT Acetals
RL: USES (Uses)

(pos.-working x-ray resists contg., for wide processing latitude and high-resoln. structures)
IT Resists
(photo-, pos.-working, contg. acid-forming compd. and acid-cleavable compd., for wide processing latitude and high-resoln. structures)
IT Resists
(x-ray, pos.-working, contg. acid-forming compd. and acid-cleavable compd., for wide processing latitude and high-resoln. structures)
IT 75-59-2, Tetramethylammonium hydroxide 6834-92-0, Sodium metasilicate 7558-80-7, Sodium dihydrogen phosphate 7601-54-9, Trisodium phosphate
RL: USES (Uses)
(developer compn. contg., for pos.-working x-ray resists)
IT 79-94-7, Tetrabromobisphenol A 9016-83-5, Cresol-formaldehyde copolymer
RL: USES (Uses)
(novolak, pos.-working x-ray resists contg. acetal and)
IT 29795-25-3 69432-41-3
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acetal and, for lithog. plate fabrication)
IT 115815-82-2P 117274-44-9P 122907-78-2P **122907-79-3P**
122907-80-6P 122907-81-7P 122907-82-8P 122907-83-9P 122907-84-0P
RL: PREP (Preparation)
(prepn. and pos.-working x-ray **resists** contg., for wide processing latitude and high-resoln. structures)
IT 100-52-7, Benzaldehyde, reactions
RL: RCT (Reactant)
(reaction of, with alcs.)
IT 122-99-6, Phenoxy ethanol
RL: RCT (Reactant)
(reaction of, with aldehydes)
IT 7204-16-2
RL: RCT (Reactant)
(reaction of, with benzaldehyde)
IT 120-57-0, Piperonal
RL: RCT (Reactant)
(reaction of, with butylphenoxyethanol)
IT 97-96-1, 2-Ethylbutanal 108-94-1, Cyclohexanone, reactions 463-78-5, Methanetriol
RL: RCT (Reactant)
(reaction of, with phenoxyethanol)
IT **122907-79-3P**
RL: PREP (Preparation)
(prepn. and pos.-working x-ray **resists** contg., for wide processing latitude and high-resoln. structures)
RN 122907-79-3 HCAPLUS
CN Benzene, 1,1'-[(2-ethylbutylidene)bis(oxy-2,1-ethanediyloxy)]bis- (9CI) (CA INDEX NAME)



L12 ANSWER 39 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:467983 HCAPLUS
DN 111:67983
TI Positive-working radiation-sensitive compositions
IN Ruckert, Hans; Lambert, Gabriele

PA Hoechst A.-G., Fed. Rep. Ger.
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM G03F007-10
CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 302359	A2	19890208	EP 1988-112015	19880726
	EP 302359	A3	19910123		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL				
	DE 3725741	A1	19890216	DE 1987-3725741	19870804
	JP 01057258	A2	19890303	JP 1988-193570	19880804
	US 5015554	A	19910514	US 1990-563677	19900806
PRAI	DE 1987-3725741		19870804		
	US 1988-227121		19880802		

OS MARPAT 111:67983

AB Pos.-working radiation-sensitive mixts. for the prodn. of lithog. plates and photoresists are composed of a water-insol. binder that is sol. in org. solvents and aq. alkali soln., a compd. that releases an acid under the effects of actinic radiation, and an acetal of formula (RO)2CH(CHR1)nCH(OR)2 and (RO)2CHCH2C(OR)2CH2CH(OR)2 (R = alkyl; R1 = H, halogen, OH, alkyl, alkoxy, alkoxycarbonyl, aryloxy, or aryl; n = 1-3). Thus, a treated Al plate was coated with a soln. contg. a cresol-HCHO novolak, (Et2CHCH2O)2(CH2)3(OCH2CHEt2), 2-(4-methoxy-1-anthracenyl)-4,6-bis(trichloromethyl)-s-triazine, 4-diethylaminoazobenzene, and ethoxy-2-Pr acetate, dried exposed through a pos. original, and developed to give a plate that showed rapid acceptance of the printing ink and sharp image reprodn.

ST pos radiation sensitive compn acetal; lithog plate photosensitive compn acetal; photoresist pos acetal

IT Resists
(electron-beam, pos.-working, contg. acetal, for good developer resistance and high flexibility)

IT Lithographic plates
(offset, pos.-working photosensitive compns. contg. acetal for fabrication of, with good developer resistance and high flexibility)

IT Resists
(photo-, pos.-working, contg. acetal, for good developer resistance and high flexibility)

IT Photoimaging compositions and processes
(pos.-working, contg. acetal, for colorproof prodn.)

IT Printing plates
(relief, pos.-working photosensitive compns. contg. acetal for fabrication of, with good developability and high flexibility)

IT Alkyd resins
RL: USES (Uses)
(rosin-based, pos.-working photosensitive compns. contg. acetal and, for color proof prodn.)

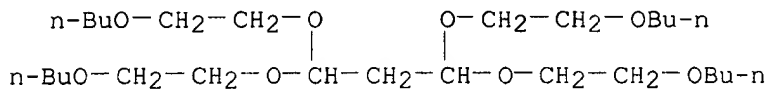
IT 69432-43-5, 2-(4-Ethoxyethoxy-1-naphthyl)-4,6-bis(trichloromethyl)-s-triazine
RL: USES (Uses)
(pos.-working dry photoresists contg. acetal and, with good developability and high flexibility)

IT 99724-86-4
RL: USES (Uses)
(pos.-working electron-beam resists contg. acetal and, with good

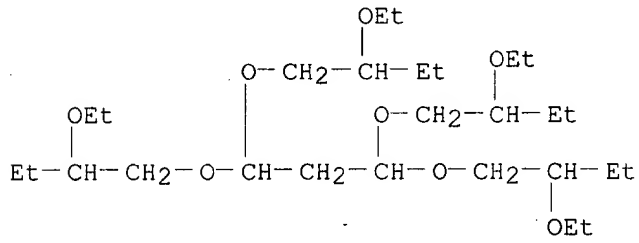
developability and high flexibility)
IT 9003-09-2, Lutonal M 40 25104-37-4, Lutonal A 25 69432-46-8
82721-52-6
RL: USES (Uses)
(pos.-working photoresist compns. contg. acetal and, with good developability and high flexibility)
IT 2481-94-9, 4-Diethylaminoazobenzene 120998-85-8, 2-(4-Methoxy-1-anthracenol)-4,6-bis(trichloromethyl)-s-triazine
RL: USES (Uses)
(pos.-working photosensitive compns. acetal and, for offset lithog. plate fabrication)
IT 38686-70-3
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acetal and, for color proof prodn.)
IT 69432-42-4
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acetal and, for offset lithog. plate fabrication)
IT 9016-83-5, Cresol-formaldehyde copolymer
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acetal and, for photoresists and lithog. plate fabrication)
IT 97802-84-1
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acetal and, for relief printing plate fabrication)
IT 116149-30-5P **120998-88-1P 120998-89-2P**
120998-90-5P 120998-93-8P 120998-94-9P
120998-96-1P 120998-97-2P 120998-98-3P **120998-99-4P**
RL: PREP (Preparation)
(prepn. and pos.-working radiation-sensitive compns. contg., for **resists** in lithog. plate fabrication)
IT **120998-86-9P 120998-87-0P 120998-91-6P**
120998-92-7P 120998-95-0P
RL: PREP (Preparation)
(prepn. of, for pos.-working radiation sensitive compns. for **resists** and lithog. plate fabrication)
IT 122-31-6, 1,1,3,3-Tetraethoxypropane
RL: RCT (Reactant)
(reaction of, with (methoxyethoxy)ethanol)
IT 110-80-5 122-99-6, 2-Phenoxyethanol
RL: RCT (Reactant)
(reaction of, with acetals)
IT 102-52-3, 1,1,3,3-Tetramethoxypropane
RL: RCT (Reactant)
(reaction of, with alcs.)
IT 120999-00-0
RL: RCT (Reactant)
(reaction of, with ethoxy ethanol)
IT 108-97-4, 4H-Pyran-4-one 50427-65-1
RL: RCT (Reactant)
(reaction of, with phenoxy ethanol)
IT 97-95-0 100-51-6, Benzenemethanol, reactions 107-98-2, 1-Methoxy-2-propanol 109-86-4 111-76-2 111-77-3, 2-(2-Methoxyethoxy)ethanol 111-90-0, 2-(2-Ethoxyethoxy)ethanol 112-34-5
RL: RCT (Reactant)
(reaction of, with tetramethoxypropane)
IT **120998-88-1P 120998-89-2P 120998-90-5P**

120998-93-8P 120998-94-9P 120998-96-1P
120998-99-4P
RL: PREP (Preparation)
(prepn. and pos.-working radiation-sensitive compns. contg., for **resists** in lithog. plate fabrication)

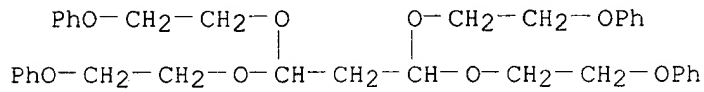
RN 120998-88-1 HCAPLUS
CN 5,8,12,15-Tetraoxanonadecane, 9,11-bis(2-butoxyethoxy)- (9CI) (CA INDEX NAME)



RN 120998-89-2 HCAPLUS
CN 3,6,10,13-Tetraoxapentadecane, 7,9-bis(2-ethoxybutoxy)-4,12-diethyl- (9CI) (CA INDEX NAME)

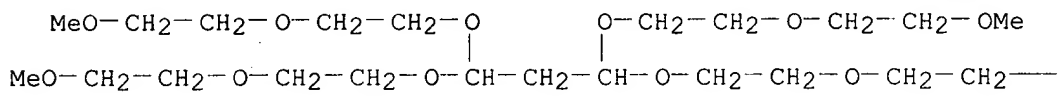


RN 120998-90-5 HCAPLUS
CN Benzene, 1,1',1'',1'''-[1,3-propanediylidenetetrakis(oxy-2,1-ethanediyloxy)]tetrakis- (9CI) (CA INDEX NAME)



RN 120998-93-8 HCAPLUS
CN 2,5,8,12,15,18-Hexaoxanonadecane, 9,11-bis[2-(2-methoxyethoxy)ethoxy]- (9CI) (CA INDEX NAME)

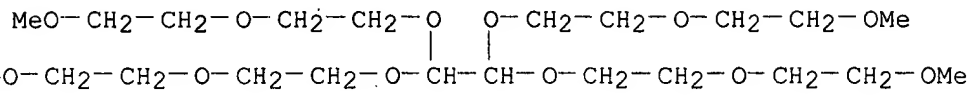
PAGE 1-A



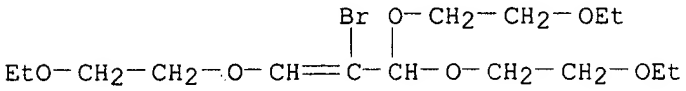
PAGE 1-B

— OMe

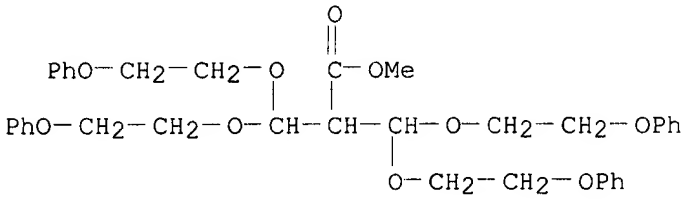
RN 120998-94-9 HCAPLUS
CN 2,5,8,11,14,17-Hexaoxaoctadecane, 9,10-bis[2-(2-methoxyethoxy)ethoxy]- (9CI) (CA INDEX NAME)



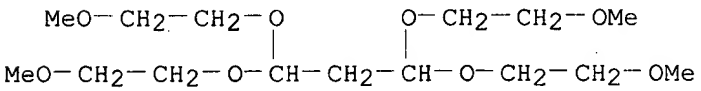
RN 120998-96-1 HCAPLUS
CN 3,6,10,13-Tetraoxapentadec-7-ene, 8-bromo-9-(2-ethoxyethoxy)- (9CI) (CA INDEX NAME)



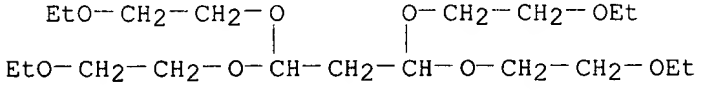
RN 120998-99-4 HCAPLUS
CN Propanoic acid, 2-[bis(2-phenoxyethoxy)methyl]-3,3-bis(2-phenoxyethoxy)-, methyl ester (9CI) (CA INDEX NAME)



IT **120998-86-9P 120998-87-0P 120998-91-6P**
120998-92-7P 120998-95-0P
RL: PREP (Preparation)
(prepn. of, for pos.-working radiation sensitive compns. for **resists** and lithog. plate fabrication)
RN 120998-86-9 HCAPLUS
CN 2,5,9,12-Tetraoxatridecane, 6,8-bis(2-methoxyethoxy)- (9CI) (CA INDEX NAME)

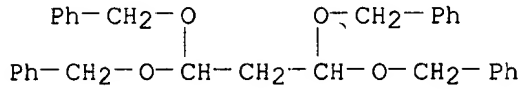


RN 120998-87-0 HCAPLUS
CN 3,6,10,13-Tetraoxapentadecane, 7,9-bis(2-ethoxyethoxy)- (9CI) (CA INDEX NAME)



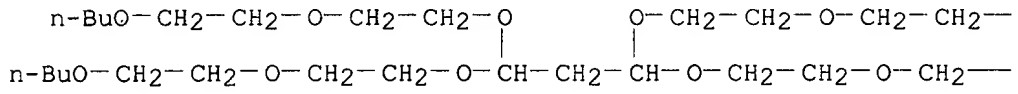
RN 120998-91-6 HCAPLUS

CN Benzene, 1,1',1'',1'''-[1,3-propanediylidenetetrakis(oxymethylene)]tetraki s- (9CI) (CA INDEX NAME)



RN 120998-92-7 HCAPLUS
CN 5,8,11,15,18,21-Hexaoxapentacosane, 12,14-bis[2-(2-butoxyethoxy)ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



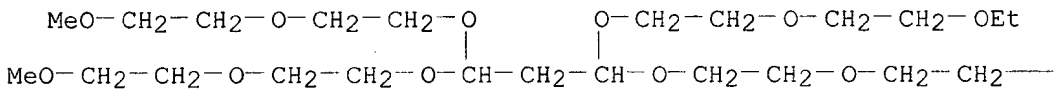
PAGE 1-B

—— OBu-n

— CH_2— OBu-n

RN 120998-95-0 HCAPLUS
CN 3,6,9,11,14,17-Hexaoxanonadecane, 10-[2,2-bis[2-(2-methoxyethoxy)ethoxy]ethyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— OEt

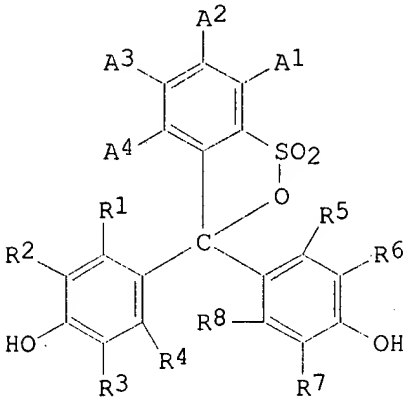
L12 ANSWER 40 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:448160 HCAPLUS
DN 111:48160
TI Photosensitive compositions, and photosensitive lithographic plates
IN Matsubara, Shinichi; Nakai, Hideyuki; Urano, Toshiyoshi; Murakami, Sachiko
PA Konica Co., Japan; Mitsubishi Kasei Corp.
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03C001-72

ICS G03F007-10
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01006946	A2	19890111	JP 1987-162747	19870630

OS MARPAT 111:48160
GI



I

AB The title compns. contain (a) substances that generate acids upon irradn., (b) acid-cleavable compds., (c) alkali-sol. resins that provide a pH of 4.0-9.0 at 25.degree. when 1 vol. of its 6 wt.% soln. is dild. with 10 vol. 1:1 (vol.) MeOH-water, and (d) sulfophthaleins of the structure I (A1-A4 = H, halo, R1-R8 = H, halo, lower alkyl); the title lithog. plates contain these compns. These compns. provide lithog. plates that give images visible under yellow safelight, by exposure. Thus, Na2CO3 was added to a soln. of phenol-cresol novolak resin in Me cellosolve and the mixt. was filtered after a 10-s stirring. This filtrate dild. with 10 vol. of 1:1 (vol.) MeOH-water showed a pH of 9.0, while an untreated filtrate without treatment showed a pH of 3.5. A compn. contg. 1,1-bis(2-phenoxyethoxy)cyclohexanone, the above resin, 2-trichloromethyl-5-[.beta.-(2-benzofuryl)vinyl]-1,3,4-oxadiazole, and solvent was applied on a surface-treated Al plate and dried to form a 20 mg/m2 layer. The obtained plates were exposed to a metal halide lamp, and produced an image with a d. higher by 0.3 than the background.

ST lithog plate photosensitive treated novolak; photosensitive lithog plate visible image; novolak pH control lithog plate; sulfophthalein contg photosensitive lithog plate

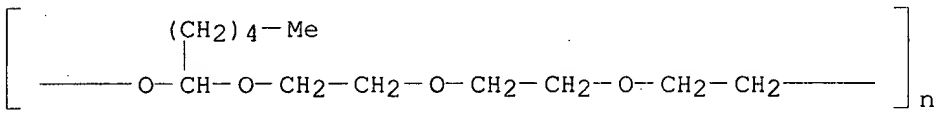
IT Lithographic plates
(storage-stable, contg. alkali-treated novolaks and sulfophthaleins, for visible image upon exposure)

IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(novolak, alkali-treated, for photosensitive lithog. plates producing visible images)

IT 9039-25-2, Cresol-formaldehyde-phenol copolymer
RL: USES (Uses)
(novolak, alkali treatment of, for lithog. plates producing visible images)

IT 115815-82-2 117160-07-3 121462-94-0 **121484-50-2**

RL: USES (Uses)
(**photoresist** contg., as acid-cleavable component)
IT 93641-24-8
RL: USES (Uses)
(photoresist contg., as acid-generating component)
IT 76-59-5 115-39-9 2553-71-1
RL: USES (Uses)
(photosensitive lithog. plates contg. alkali-treated novolak and, for visible images)
IT **121484-50-2**
RL: USES (Uses)
(**photoresist** contg., as acid-cleavable component)
RN 121484-50-2 HCAPLUS
CN Poly(oxyhexylideneoxy-1,2-ethanediyloxy-1,2-ethanediyloxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)



L12 ANSWER 41 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:105002 HCAPLUS
DN 110:105002
TI A heat-resistant photosensitive resin composition for electrical circuit manufacturing
IN Tazawa, Kenji; Horigome, Tomoki; Aoyama, Toshimi; Iwata, Akira
PA Tokyo Ohka Kogyo Co., Ltd., Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G03F007-10
ICS G03C001-68
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 283990	A2	19880928	EP 1988-104462	19880321
	EP 283990	A3	19890719		
	EP 283990	B1	19940126		
	R: CH, DE, FR, GB, IT, LI, NL				
	JP 01006944	A2	19890111	JP 1987-243675	19870930
PRAI	JP 1987-68957		19870325		
	JP 1987-243675		19870930		

AB A heat resistant photosensitive resin compn. comprises: (1) a copolymer of CH2:CXCONHYOZ [X = H, Me; Y = alkylene, Z = C1-4 alkyl] 10-30 wt.%, and a carboxyl group-contg. ethylenically unsatd. compd. as essential components; (2) a reaction product of a novolac-type epoxy resin and an ethylenically unsatd. carboxylic acid (0.2-0.8 equiv.); (3) a photopolymerizable monomer; (4) a photopolymn. catalyst; (5) a filler; and (6) a curing agent. The compn. is capable of development with aq. alk. soln. to give resist layer having excellent resistance against heat and chem., adhesion to the surface, and elec. insulation. The material is useful in elec. circuit board manufg.

ST resist photosensitive compn heat resistant; elec circuit resist heat resistant

IT Electric circuits
(heat-resistant photosensitive compn. for)

IT Mica-group minerals, uses and miscellaneous
Polyamides, uses and miscellaneous
Polyimides, uses and miscellaneous
RL: USES (Uses)
(photosensitive compn. contg., heat resistant)

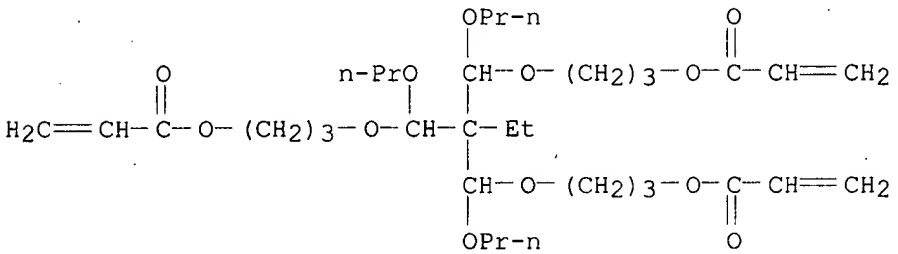
IT Resists
(photo-, compn. for heat-resistant)

IT 79-10-7D, 2-Propenoic acid, reaction product with epoxy resin 80-62-6 86-39-5, 2-Chlorothioxanthone 90-93-7 96-33-3 119-61-9, Benzophenone, uses and miscellaneous 818-61-1, 2-Hydroxyethyl acrylate 868-77-9, 2-Hydroxyethyl methacrylate 923-26-2, 2-Hydroxypropyl methacrylate 999-61-1, 2-Hydroxypropyl acrylate 1314-60-9, Antimony oxide (Sb2O5) 1344-28-1, Aluminum oxide (Al2O3), uses and miscellaneous 3290-92-4 3524-66-1 3524-68-3, Tetramethylol methane triacrylate 4986-89-4, Pentaerythritol tetracrylate 6175-45-7, 2,2-Diethoxyacetophenone 7473-98-5, 2-Hydroxy-2-methylpropiophenone 7631-86-9, Silica, uses and miscellaneous 7727-43-7, Barium sulfate 9003-08-1 13048-33-4, 1,6-Hexanediol diacrylate 14807-96-6, Talc ($Mg_3H_2(SiO_3)_4$), uses and miscellaneous 15625-89-5, Trimethylolpropane triacrylate 19727-16-3, Trimethylolpropane dimethacrylate 21645-51-2, Aluminum hydroxide ($Al(OH)_3$), uses and miscellaneous 24650-42-8, Irgacure 651 37275-47-1, Trimethylolpropane diacrylate 38668-46-1, 2MZ-AZINE 60506-81-2 61698-32-6 69673-85-4, 4'-Isopropyl-2-hydroxy-2-methylpropiophenone 71868-10-5, 2-Methyl-1-[4-(methylthio)phenyl]-2-morpholino-1-propanone 82200-31-5 97666-48-3D, Epo Tohto YDCN 701, reaction product with acrylic acid 100752-97-4 105478-35-1D, Epo Tohto YDPN 638, reaction product with acrylic acid 118232-63-6, SP 4300-1X 118948-88-2 118948-89-3 118948-90-6 118955-16-1 119179-61-2 119179-62-3 **119179-63-4**
RL: USES (Uses)
(photosensitive compn. contg., heat **resistant**)

IT **119179-63-4**
RL: USES (Uses)
(photosensitive compn. contg., heat **resistant**)

RN 119179-63-4 HCAPLUS

CN 2-Propenoic acid, [2-ethyl-2-[[3-[(1-oxo-2-propenyl)oxy]propoxy]propoxymethyl]-1,3-dipropoxy-1,3-propanediyl]bis(oxy-3,1-propanediyl) ester (9CI) (CA INDEX NAME)



L12 ANSWER 42 OF 42 HCAPLUS COPYRIGHT 2002 ACS

AN 1988:214009 HCAPLUS

DN 108:214009

TI Positive-working radiation-sensitive recording material

IN Elsaesser, Andreas; Rode, Klaus
PA Hoechst A.-G., Fed. Rep. Ger.
SO Ger. Offen., 7 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM G03F007-08
ICS G03C001-72; C07D251-24
ICA C07C143-68; C08G063-18; C08F010-06; C08G008-12
CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3621376	A1	19880107	DE 1986-3621376	19860626
	US 4840867	A	19890620	US 1987-63070	19870617
	EP 251059	A2	19880107	EP 1987-108779	19870619
	EP 251059	A3	19890607		
	EP 251059	B1	19920729		
	R: AT, CH, DE, FR, GB, IT, LI, NL				
	AT 78940	E	19920815	AT 1987-108779	19870619
	JP 63013031	A2	19880120	JP 1987-153602	19870622
	BR 8703201	A	19880315	BR 1987-3201	19870625
PRAI	DE 1986-3621376		19860626		
	EP 1987-108779		19870619		

AB Radiation-sensitive recording materials, having improved storage stability, are composed of a support, a 1st radiation-sensitive layer contg. a 1,2-quinone diazide, and a 2nd radiation-sensitive layer contg. a compd. that forms a strong acid under the effects of actinic radiation, a compd. with .gtoreq.1 acid-cleavable COC bond, and a polymer binder. Thus, an electrolytically roughened, anodized, and hydrophilized Al plate was coated with a 1st layer contg. a cresol-HCHO novolak, a 2,3,4-trihydroxybenzophenone tris(1,2-naphthoquinone-2-diazide-5-sulfonate), THF, 2-methoxyethanol, and BuOAc, and then with a 2nd layer contg. the above novolak, a polyacetal from 2-ethylbutyraldehyde and triethylene glycol, 2-(4-styrylphenyl)-4,6-bis(trichloromethyl)-s-triazine, crystal violet base, and butanone. The resultant material was exposed through a half-tone step wedge and then developed to show 8 steps and no change in the half-tone wedge upon a 4 h forced storage.

ST pos photosensitive material printing plate; photoresist pos photosensitive material; electron beam pos resist material; acid former pos photosensitive compd; ether acetal pos photosensitive compd; acetal ether pos photosensitive compd

IT Printing plates
(pos.-working compns. contg. acid-forming compd. and compd. with acid-cleavable bond for fabrication of)

IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acid-forming compd. and compd. with acid-cleavable group and, for photoresists and printing plate fabrication)

IT Acetals
RL: USES (Uses)
(pos.-working photosensitive compns. contg. compd. with acid-cleavable bond and, for photoresists and printing plate fabrication)

IT Resists
(electron-beam, pos-working, contg. acid-forming compd. and compd. with acid-cleavable bond)

IT Resists
(photo-, pos.-working, contg. acid-forming compd. and compd. with

acid-cleavable bond)

IT Photoimaging compositions and processes
(pos.-working, contg. acid-forming compd. and compd. with acid-cleavable bond)

IT Electric circuits
(printed, pos.-working photosensitive compns. contg. acid-forming compd. and compd. with acid-cleavable group for fabrication of)

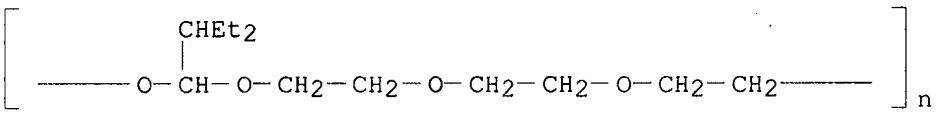
IT 9016-83-5, Cresol-formaldehyde copolymer 69432-41-3 97802-84-1
RL: USES (Uses)
(pos.-working photosensitive compns. contg. acid-forming compd. and compd. with acid-cleavable group and, for photoresists and printing plate fabrication)

IT 5610-94-6 64523-73-5 69666-55-3 69666-56-4 114347-86-3
114366-72-2 114366-73-3
RL: USES (Uses)
(pos.-working photosensitive compns. contg. compd. with acid-cleavable bond and, for **photoresists** and printing plate fabrication)

IT **114366-72-2 114366-73-3**
RL: USES (Uses)
(pos.-working photosensitive compns. contg. compd. with acid-cleavable bond and, for **photoresists** and printing plate fabrication)

RN 114366-72-2 HCAPLUS

CN Poly[oxy(2-ethylbutylidene)oxy-1,2-ethanediyloxy-1,2-ethanediyloxy-1,2-ethanediyl] (9CI) (CA INDEX NAME)



RN 114366-73-3 HCAPLUS

CN Poly(oxybutylideneoxy-1,2-ethanediyloxy-1,2-ethanediyloxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)